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ABSTRACT

Work and learning in microenterprises in the car repair industries of four European Community (EC) countries were examined through 21 case studies of firms with 10 or fewer employees (6 firms in Ireland and 5 each in Greece, the Netherlands, and Spain). Structured interviews were conducted with each firm's owner and 60 motor vehicle mechanics at the 21 firms. Firms were not selected randomly; rather, they were selected because of their active use of training to adapt their staff to technological, economic, and organizational change. The sample included franchise and nonfranchise firms. All 21 microfirms studied were simultaneously pursuing growth strategies and the strategy of specialization in networks. Of the 60 mechanics interviewed, 43 had initial vocational education for the sector. Except for the apprentices, all 43 mechanics participated in continuing training during the previous 3 years. Of the 17 mechanics with no initial training for the sector, 10 (59%) had participated in continuing training and only 7 (41%) reported learning a great deal from that training. Many employees developed skills through incidental learning (including learning by solving problems individually or with colleagues, learning by regular rotation of tasks, and learning under the boss or an experienced worker). (Contains 23 tables/figures) (MN)

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European Centre for the Development of Vocational Training

PANORAMA

Work and learning in micro car-repair enterprises

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A comparative study on the relationship between technological and organisational developments and training activities in micro car-repair enterprises in four European countries

Synthesis report

CE 077862

Work and learning in micro car-repair enterprises

A comparative study on the relationship between technological and organisational developments and training activities in micro car-repair enterprises in four European countries

Synthesis report

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January 1998

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Foreword

The present report is the third synthesis to be published within Cedefop's project "Work and learning in micro-enterprises in various sectors".

Three sectors have been analyzed, the Retail, the Car Repair and Printing sectors, all in the perspective of the organizational changes which occurred in those firms and their learning potential.

We have chosen to focus on the micros because they are generally less studied.

Micro firms are confronted with important ongoing changes as every other organisation at this end of the century, where internationalisation affects directly or indirectly all aspects of our life.

But what makes them more interesting to analyse is their specific nature which is distinguished by the role of the owner and his/her constant passage from entrepreneurial to managerial tasks, as they mingle, the micros not having distinctive departments or people to deal with either.

This does not mean that we limit ourselves to the owners and their role in the development of their firm.

Employees have been asked to fill out structured questionnaires wherever possible and their views on learning on the job have been examined in the light of the opinions of owners.

The research at the sectoral level has demonstrated that besides the differences in skills of their owners, micros are affected by the dynamics of the particular sectors, the homogeneity or the heterogeneity of the firms, the production processes and the products of a given sector and the training tradition and the training provisions within it.

So, if training is rather low in the retail sector where emphasis is put upon the modernisation process and the entrepreneurial skills, on the contrary it is relatively high in the small car repair workshops, which are continuously confronted with important technological changes and which belong to a more homogeneous sector, a situation that facilitates the training offer and the achievement of remarkable results.

While we have noticed in the car repair sector an important external and internal division, in the printing industry the technological and commercial transformations have already taken place.

Twenty five different ways of learning have been defined, some being favoured by the owners and others by the employees.

All are answers, even partial ones, to the central questions of this project namely, in which ways do small enterprises cope with the fast changes in their environment, the technological developments in their own sector and which role is training/learning playing in this process.

Four countries have participated in this work on car repair micros and four research teams have carried out a total of twenty case studies covering all types of workshops.

Despite the reduced size of the sample, we think that the results depict the large variety of situations within the sector and the interested reader will certainly find information on many issues which are related to the main question, like the impact of the national context, industrial relations or the supportive structures available.

Cedefop wishes to thank the authors of the national reports: Mr. Dominique Tuite and Mr. Tom Martin of the Dublin Institute of Technology, Dr Karsten Krüger of CIREM in Barcelona, Dr Thomadakis and Dr Patsatzis of the Association of Motor Vehicles Importers Representatives in Athens and the coordinators and authors of the Dutch report and the present synthesis: Mr. Harry van den Tillaart and Mr. Sjaak van den Berg of ITS in Nijmegen.

Tina Bertzeletou
Project co-ordinator

Stavros Stavrou
Deputy Director

1. Introduction

Organisations are confronted with rapid and significant changes. They have to update the qualifications of their personnel in an almost continuous process in order to be able to cope with these changes. Research has demonstrated that for many organisations adequate continuing qualification of their staff is a major problem. Most of this research was directed towards the larger organisations. Small organisations and in particular the micro enterprises, that is to say organisations with up to 10 staff members, are studied to a lesser extent. It is nevertheless clear that the way in which micro enterprises react to the changing conditions in their surroundings, the way in which they adapt their internal organisation and the way in which they update the qualifications of their staff are specific to organisations of this type. It is therefore important to examine these processes in micro organisations carefully.

CEDEFOP in Thessaloniki has organised such a study in the retail sector in four EC countries: Greece, Ireland, Spain and the Netherlands. This study has clearly confirmed the specific nature of the training problems in micro enterprises and the necessity of a specific approach to this problem in organisations of this type. As a continuation of the project in the retail sector, CEDEFOP has organised a research project to study the problem in a comparable way in the car-repair sector. Given the rapid and specific technological developments in this sector it is appropriate to study how the small enterprises manage to survive and what role training plays in this process.

Training in small companies

Different research in micro enterprises in different countries has demonstrated that the role of the owner/entrepreneur is mostly a decisive factor in structuring the firm and in the process of adaptation to changes.

To take one example, the findings of a survey into the continuing vocational training of employees in 400 Dutch small firms indicate that the entrepreneurial and managerial skills of the small-business owners play an important role (see Figure 1).

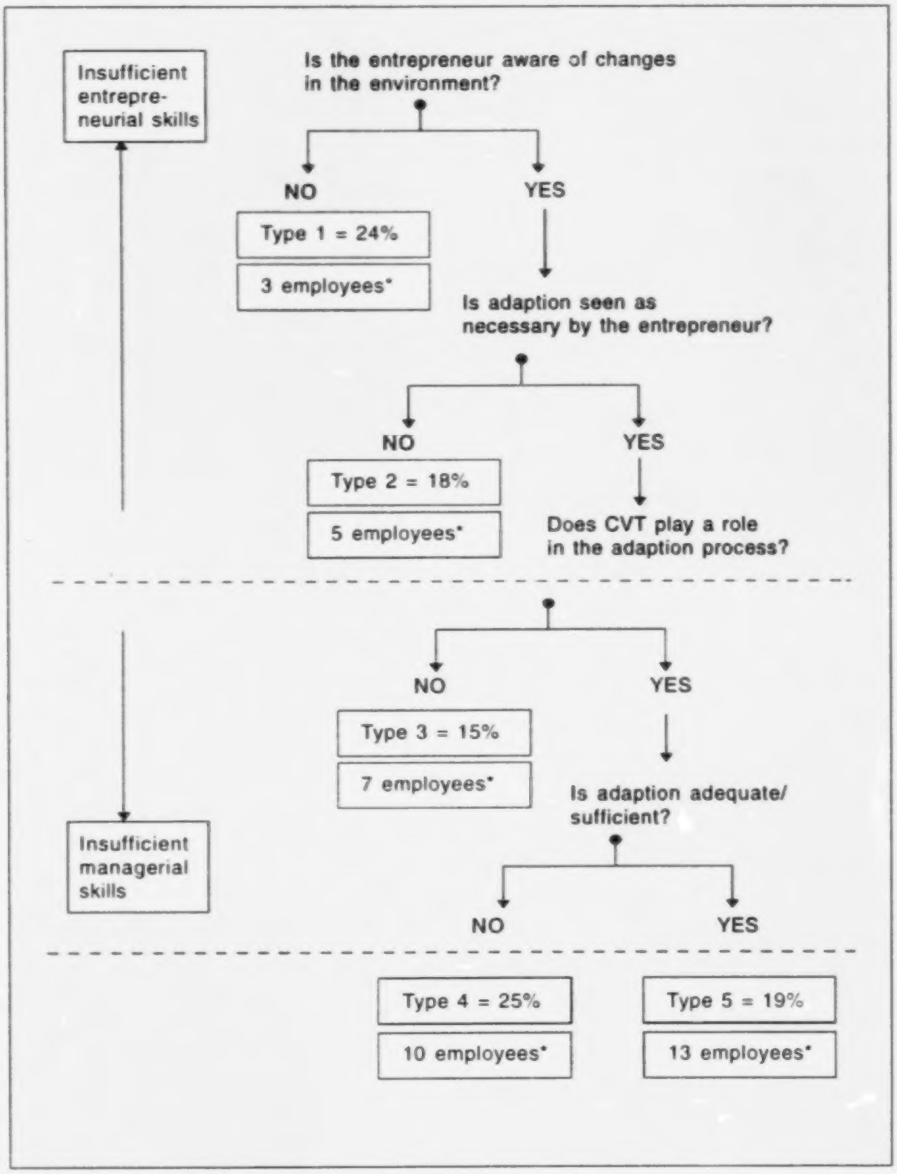
More than forty percent of small-business owners, in particular owners of the smallest firms with no or very few employees (the "*self-employed*" and "*family businesses*"), are virtually or totally unaware either of the changes that are taking place outside their firms (type 1 in Figure 1) or of the consequences these changes could or should have for their firms (type 2 in Figure 1). This being the case, it is obvious that they do not appreciate the importance of adapting and modernising their company and style of management. The fact that the further training of the staff in these firms is neglected is thus primarily caused by a *lack* of or at least inadequate *entrepreneurship*. Alongside risk-taking, external orientation is, after all, a key element of entrepreneurship.

More than half of all small-business owners, in particular the "*small employers*", appear to have a reasonable or good eye for the dynamics in their surroundings (type 3, 4, 5 in Figure 1) and they almost all appreciate that small-business owners too have to invest time and money in training their staff. Nonetheless, even in these cases, little or too little comes of it. This may sometimes be because no adequate training is available. More often, however, the cause is *insufficient managerial skills*. Small-business owners often appear to have great difficulty in designing an adequate personnel and training policy.

Altogether only 23% of these 400 small-business owners have in the last three years invested large sums of money in the development of new products or services. Nearly half (46%) of these 400 small-business owners have in the last three years invested money in the replacement of machinery and (technical) resources, but this differs as follows between the 5 types in Figure 1:

type 1: 27% type 2: 35% type 3: 57% type 4: 49% type 5: 65%

Figure 1 - Continuing vocational training and the adaptation process in small firms


Insufficient entrepreneurial skills
Is the entrepreneur aware of changes in the environment?
NO
YES
Type 1 = 24%
3 employees*
Is adaption seen as necessary by the entrepreneur?
NO
YES
Type 2 = 18%
5 employees*
Does CVT play a role in the adaption process?
NO
YES
Type 3 = 15%
7 employees*
Is adaption adequate/ sufficient?
Insufficient managerial skills
NO
YES
Type 4 = 25%
10 employees*
Type 5 = 19%
13 employees*

Source: H. van den Tillaart, J. Frietman and J. van den Berg, 1991.

* Average number of employees

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An important conclusion is that in small enterprises there is a close correlation between the skills of the entrepreneur, his efforts in relation to the continuing vocational training of his staff and his efforts to modernise his firm. These findings clearly indicate that the participation of SME staff in continuing vocational training depends to some extent on the skills of the small-business owners, in particular on their entrepreneurial (external orientation: monitoring changes and developments in the environment) and managerial skills (internal orientation: designing an adequate personnel and training policy).

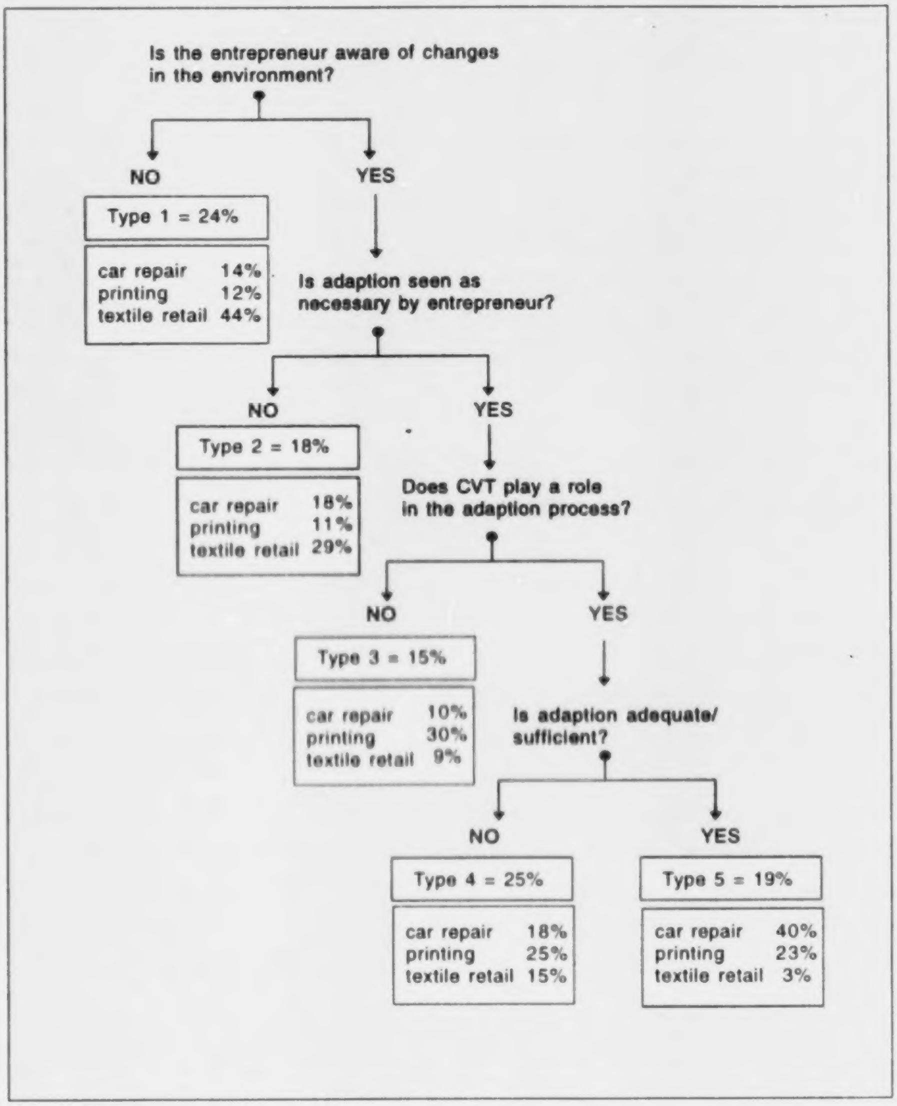
The 400 small-business owners run their business in different sectors. Figure 2 clearly indicates that as well as differences in the skills of small-business owners, differences between economic sectors are also important in explaining training policy and training practice in SMEs. There is evidence that the following factors in particular play an important role at sector level (Warmerdam & Van den Tillaart, 1997):

- dynamics in the sector (for instance: technological developments)
- homogeneity/heterogeneity of firms, products and production processes in the sector
- training tradition and training provisions in the sector.

As Figure 2 shows, the level of participation in continuing vocational training is relatively high in small car-repair firms and relatively low in the textile retail trade. The car firms are confronted with a large number of technological changes. In addition, this sector is relatively homogeneous. Training agreements have been made in the Collective Labour Agreement, and the sector has a training fund. Moreover, there are excellent training provisions, not just at the sectoral level but at any intermediate level too: in this sector many importers have their own make-specific training provisions. Franchised car-repair firms often receive a great deal of support in training matters from their importer. The small-business owners in the retail textile trade operate their business under different circumstances. Although there are technological developments in this sector, they have more consequences for the back-office employees than for the front-office employees. In addition, there is no training tradition in this sector. There are training provisions at the intermediate level - for instance in the voluntary chain formula wholesalers sometimes offer training provisions to their retail members - but in 1990 this was still the exception rather than the rule.

As Figure 2 shows, more than half (58%) of the small-business owners in the car-repair sector in 1991 use continuing vocational training as a tool in the adaptation process. Compared with the textile retail trade this is a high score, but at the same time this shows that in 1991 in 42% of Dutch car-repair firms there is little or no participation in CVT.

*Figure 2 - Adaption and continuing vocational training in Dutch SMEs in the car repair sector, the printing sector and the textile retail sector**


Is the entrepreneur aware of changes in the environment?
NO
YES
Type 1 = 24%
car repair 14%
printing 12%
textile retail 44%
Is adaption seen as necessary by entrepreneur?
NO
YES
Type 2 = 18%
car repair 18%
printing 11%
textile retail 29%
Does CVT play a role in the adaption process?
NO
YES
Type 3 = 15%
car repair 10%
printing 30%
textile retail 9%
Is adaption adequate/ sufficient?
NO
YES
Type 4 = 25%
car repair 18%
printing 25%
textile retail 15%
Type 5 = 19%
car repair 40%
printing 23%
textile retail 3%

Source: H. van den Tillaart, J. Frietman and J. van den Berg, 1991.

* In total in this research small firms in 8 sectors were involved. In this figure we present the results for 3 of the 8 sectors.

In a recent survey it was found that 72% of the employees in the Dutch car-repair sector participated in CVT in the period 1993-1995 (Sanderse et al., 1996). As well as the car-repair sector, six other sectors were involved in this survey. Participation again proved to be highest in the car-repair sector. The researchers do, however, make some important comments. They explicitly mention that the training supply is almost completely made up of technical courses, whereas there is a great deal of evidence that there are also bottlenecks in skills at the entrepreneurial and managerial levels. Many entrepreneurs in this sector only have technical education/training, and this is why they often have (too) little skill in managing and updating their firms and people in a proper manner. In the meantime initiatives have been taken to plug this gap in the supply of training. Another recent initiative worth mentioning is the 'Boss as coach' project. The objective of this project is to improve the transfer of course contents to the practical situation.

In most research attention is directed towards the enterprises where training plays a role in the adaptation process. The reason for this focus is that this category of small enterprises is very important for policy-making, because in enterprises of this type it is possible to observe the factors and mechanisms that are responsible for this form of adaptation by training as well as the methods used in the adaptation process. This research has demonstrated that in many of these small companies training takes place in both formal and informal ways. Informal types of qualification development, such as learning from doing and learning from colleagues within teams, are often located on the job, within workshops. Their opportunities are heavily dependent on the structure of work and the developments in work organisation.

It is for this reason that attention is also focused in this CEDEFOP project on this category of small enterprises and on 'training' in a broad sense, i.e. including the more informal learning activities at the workshop. The selection of participating enterprises is also directed towards this type of small enterprises.

Central aspects of the problem

Management more important than entrepreneurship

In this study in the car-repair sector the focus was on the interactive process of changes in the organisation of work in the small car-repair enterprises on the one hand and the required vocational qualification and the training methods used in these enterprises on the other. This means that the internal processes of management and the development and use of craftsmanship in the car-repair micro enterprises are emphasised more than entrepreneurship. These aspects of management and qualification seem to be more relevant to the position of the micro repair shops than the entrepreneurship of the owner. This last aspect was dominant in the retail sector, but in the car-repair sector the potential to keep track of the technological developments and the quality of the service and the costs of that service are probably the most important factors in maintaining position in the repair market. The qualifications of the owner/entrepreneur and his staff are crucial to meet the technological challenge and to achieve and maintain high quality and low costs.

This does not, however, mean that the entrepreneurship of the owner is not relevant. Entrepreneurship is decisive for the positioning of the enterprise in the market. In its turn, the choice of which services to offer and customers to service (the choice of the product-market combination) is closely related to aspects of management, the organisation of work and the required craftsmanship in the enterprise. For this reason attention is also paid to entrepreneurship but, as mentioned, emphasis is put on craftsmanship in the micro enterprises.

Technological developments and quality of service are dominant

Technological developments are dominant in the automotive sector. This is the case not just in the production of cars but in maintenance and repair as well. Electronic devices, for instance, are being rapidly introduced in the different stages of the car-repair process, in management, logistics and administration. Because of this development, specialised qualifications are needed to use these facilities and repair electronic equipment and electronics in cars. Important questions are what technological developments the enterprises are faced with, how they implement these developments in their own enterprise and how they adapt the available qualifications of the workshop staff.

Besides these technological developments there have been major changes over the past decade in the demands of customers and in the quality demands of the car importers with respect to the selling process and the service process. Quality of service is increasingly the decisive competitive factor. To attain these quality demands, the available human capital, the organisation of work, the motivation and the available qualifications of the staff are becoming increasingly decisive in maintaining a position in the market.

Special attention is therefore paid in this project to changes in work organisation as a reaction to technological and quality demands and to training needs and training methods in relation to the changing work organisation. Special attention is given to the question as to whether firms, in shaping a new work organisation, are aware of the importance of creating and utilising adequate opportunities for learning.

Workplace learning

As well as initial vocational education and continuing vocational training (CVT), other forms of learning play an important role in the on-going process of keeping the available qualifications of the staff up to date. Earlier research in small enterprises has shown that learning processes in small organisations are organised in a different way and that workplace learning or forms of incidental learning play a more important role. This learning is not, like formal education and training, structured by some kind of 'pedagogical authority', but primarily by the structure of work and the context of the work organisation.

The concept of 'informal learning' which is mostly used in this context is a misleading term, and we prefer to use the term 'learning at the workplace'. Workplace learning is not, like formal training (CVT), an organised form of learning as a reaction to a structural change or need, but rather learning by utilising the ad hoc possibilities available within normal daily work. Workplace learning is or should therefore be a normal part of daily work, and different methods and means can be used in this type of learning and in relation to this work and in relation to the position of the worker. Examples are:

- using manuals, etc. to solve a problem;
- practising on new equipment;
- requesting help from a experienced colleague or a boss;
- using computer instructions or help functions;
- obtaining instructions from suppliers, etc.;

- doing difficult tasks under supervision;
- exchanging work experiences with colleagues;
- visiting fairs, shows, etc.

A hypothesis could be that these methods of workplace learning are emphasised more in those small enterprises for which formal training is less available or in enterprises where financial and/or organisational problems interfere with participation in formal training or in enterprises where entrepreneurial skills are insufficient to manage this process.

Learning in networks

Research has demonstrated that training in the car-repair sector often takes place within intra-organisational networks. Car-repair enterprises are often part of a network of different organisations such as dealers, importers, spare-parts suppliers, specialised workshops, etc. The organisations in this network often play a role in one way or another in the training activities of the small enterprise. Small car-repair enterprises compensate for the limited capacity and opportunities imposed by their small scale specifically by participating actively in a network. We therefore also pay explicit attention in this study to the network in which the enterprise participates and to the role of this network in the organisation and qualification processes within the small car-repair organisation.

Main questions

Summarising the foregoing, we can say that the main questions addressed by this research project are:

- With what (technological and organisational) developments are small car-repair enterprises confronted and how do the enterprises adapt to these developments?
- In what specific way are work organisation, learning processes and learning methods in small car-repair enterprises related?
- What training and learning methods are used and how are formal and informal/workplace learning related?
- What are the different learning potentials of these different methods?
- Which categories of employees participate in which methods of training and learning?
- What role do external and internal networks play in training and learning processes?

Methodology: Case studies in four countries

The case study methodology is used for this project, because a good description can be made in this way of the characteristics of the different processes of organisation and qualification in this type of micro enterprises and of the factors that influence these processes.

Interviews and questionnaires

In the case studies, data were gathered at the level of the owner/entrepreneur and at the level of the staff. To be sure that the different case studies in the four participating countries are comparable, the owner/entrepreneur was questioned using a topic list which was used in all the case studies. Examples of the subjects in this list are the characteristics of the enterprise (history, recent developments, personnel), the qualifications of the entrepreneur, work organisation, personnel management, education and training, workplace learning and the external and internal networks in which the enterprise participates.

The staff were surveyed using a structured questionnaire. Every workshop employee was asked to fill in this questionnaire, which contained questions on age, education, labour-market activities, function, training activities over the last few years and workplace-learning activities.

Criteria for the selection of firms

The study in the car-repair enterprises was conducted on the basis of case studies in four different EC countries, representing a mix of northern and southern countries: Ireland, Spain, Greece and the Netherlands. As a result, different (vocational) educational systems, different labour-market situations and probably different organisational concepts in the car-repair sector are represented in the research.

In each country, with the exception of Ireland, five case studies were conducted in different types of enterprises. Three criteria were central to the selection of the case studies:

1. Dealer (franchised) enterprise versus universal (non-franchised) workshop. The connection to an importer or manufacturer of cars probably has a strong bearing on the organisation and training policies of small car-repair shops. This was consequently one of the most important criteria for selection.
2. Specialised workshops versus workshops with a broad range of products/services. The extent of specialisation is probably an important factor in work organisation and training policies. In this context specialised repair shops such as 'Quick Fit', 'Car glass' etc. are less relevant because these organisations have the same organisational concept in the different countries where they are active. Independent, specialised shops such as those specialising in car electronics, diesel engines etc. are particularly relevant to the study.
3. Size of the shop: less than five employees and between five and ten.

The five case studies are not selected at random, the selection being directed towards enterprises that are in one way or another active in adapting their staff by training and learning. This is important for the ability to answer the main questions of this study.

A total of 21 micro car-repair firms have been studied. The size of these firms, measured as the number of persons active in the enterprise - i.e. including owner, family members and employees - varies between 1 and 18 (see Figure 3). The last firm - the Irish NISSAN dealer - cannot in fact be categorised as a micro. Moreover, the first five firms in the Irish sample were all franchised firms. This is the reason why a sixth Irish case study (number 18 in Figure 3) has been added.

Figure 3 - Typology of the 21 car repair firms in this study

		country	**type**	**employees**		**economic situation**
				total	in work-shop	
I FRANCHISED						
A *Components (specialist) dealerships*	1	Sp.	Lucas + Bosch dealer	4	3	recovering from crisis
	2	The Neth.	Bosch dealer	7	5	steadily growing
	3	Ire.	former Lucas dealer	8	4	back in the black
B *Make dealerships*	4	The Neth.	SEAT dealer	4	2	fairly good
	5	Ire.	SKODA dealer	4	2	fairly good
	6	Ire.	PEUGEOT dealer	8	4	fairly good
	7	Ire.	NISSAN dealer	18	7	prosperous
	8	The Neth.	DAEWOO dealer	11	6	trying to maintain position
C *Authorised workshops*	9	Gr.	KIA-workshop	5	3	positive outlook mood
	10	Ire.	PEUGEOT workshop	8	6	strengthening economic position
	11	Gr.	ROVER workshop	15	11	prosperous
II NON FRANCHISED						
D *Workshops with a strategic concept*	12	Gr.	non-authorised ALFA ROMEO workshop	9	7	prosperous
	13	The Neth.	mobility concept firm	12	5	prosperous + ambitious
	14	The Neth.	full-service concept workshop	6	4	prosperous
E *Workshops with some specialisation*	15	Sp.	Workshop with CITROEN specialisation	6	4	trying to maintain position
	16	Sp.	workshop (spec. in small lorries)	5	5	recovering from crisis
	17	Gr.	workshop, spec. in Opel-diesel	4	4	fairly good
	18	Ire.	workshop, spec. in Mitsubishi space-wagons	2	2	fairly good
F *Workshops without specialisation*	19	Gr.	workshop	1	1	trying to survive
	20	Sp.	workshop	2	2	struggle for survival
	21	Sp.	body workshop	3	2	struggle for survival

It is commonly known that the car repair and distribution sector is a highly atomised sector. Our sample of 21 car firms illustrates that even within the category of micro car-repair firms there is a wide variety in modes of strategic positioning and in business success scores. The well-known distinction between franchised and non-franchised car firms is far too broad really to obtain a deep insight into what is happening in this sector. There is at least as much variety within these two categories as between them.

Structure of the synthesis report

Reading the reports of the case studies it becomes evident that there is a great deal of variety in the models of work organisation applied and in the training and learning strategies or practices. The reports of the 21 case studies provide a great deal of interesting empirical material on the ways small car firms try to maintain or improve their position and the role training and learning play in this. We have analysed these relationships in depth and will present the results in Parts 2 and 3. In Part 2 we shall describe the relationships between market position, work organisation and training (initial vocational training, continuing vocational training and workplace-related training). In this part we will present the 21 firms, providing very specific examples of the relationships between the core variables in this research. The data from the employee questionnaires are integrated into this description. In Part 3 we shall apply a thematic perspective and formulate the main results and conclusions of this study from a more abstract, synthetic point of view.

2. Case studies

2.0 Introduction

In the first section we have already illustrated that, although almost all the car-repair firms that have been studied really are micro enterprises, there is a wide variety of modes of strategic positioning and business success scores. The usual distinction between franchised and non-franchised car firms is far too broad really to obtain a good understanding of what is happening in this sector or in the micro enterprises in this sector. There is at least as much variety within these two categories as between them. Figure 3 in Section 1 clearly shows that micro enterprises in the car sector pursue different strategies in order to maintain or improve their market position and competitive strength.

It may be thought surprising to speak of the strategic behaviour of micro enterprises: small firms in general do not carry out a strategic planning process and they rarely have formal strategic plans. However, strategic behaviour does not necessarily mean the elaboration of long-range written plans. Developments in strategic theory, especially at the conceptual level, allow a more differentiated perspective. The distinction made by Mintzberg (1978) between intended and realised strategies is very important here. These are two fundamentally different perspectives of strategy and are characterised by Bamberger and Bonacker (1994) as follows: the first perspective defines strategies as plans which describe global activities explicitly and ex-ante and guide the firm's decisions and actions in the future. Strategies are ex-ante models of future behaviour. In the second perspective strategies are real patterns of behaviour. These patterns are only visible ex-post as a structure in a flow of decisions, and may thus be the result of planned behaviour. Strategies as real patterns of behaviour may have been previously defined as plans. But they may also be the result of a sequence of incremental and non-coordinated decisions and external events and thus of 'unplanned behaviour' (Bamberger & Bonacker, 1994).

The concept of strategy is not unequivocal in the literature, because various classifications are made. Bamberger & Bonacker (1994) mention that it is important and, nowadays, more or less common to make a distinction between three different levels of strategies: corporate strategies, business strategies and functional strategies.

The *corporate strategy* of a firm determines its different product/market combinations: where, that is to say in what markets and with what products, the firm wishes to compete. Specialisation and diversification are two fundamental strategies at this level. Well known at this level are the expansion strategies - very important for the understanding of the *grow-or-die dilemma* most micro firms face, in particular the ones that have recently started up - of Ansoff (1965). Figure 3 in Section 1 clearly indicates that these concepts are of importance in describing the market positions of micro car firms.

The *business strategies* of a firm are, generally, global patterns of behaviour with respect to a particular product/market combination, thus focusing on how to succeed within a certain product/market combination. The central question here is how to compete, that is to say how to achieve a competitive advantage. Well known at this level are the generic competitive strategies of Porter (1980, 1985). He concentrates on the concept of competitive advantage.

Competitive advantages are based on distinctive competences, that is to say specific resources, such as modern equipment, high technology, skilled employees, use of high-quality input factors, an efficient information system, outstanding service, low prices, etc. There are many ways of diffentiating one's own firm its competitors.

Functional strategies concern global patterns of behaviour with regard to the different functional areas of the firm such as marketing, finance, research & development or personnel. Their function is the deployment and use of resources. Functional strategies have to be chosen in accordance with the strategies pursued at the corporate and business levels.

In this section we will present the 21 micro car firms involved in this study. Every case description presented in this section is a summary of the original case-study report. In these presentations we mostly start with information about the market position of the firm and the strategy of the entrepreneur for maintaining and improving this position. This market strategy can be clarified and described very well in terms of a transition process, because such processes are on-going in most of the firms studied in this research and because the concepts referred to above such as specialisation, diversification and expansion are often parts of these transition processes, as Figure 2.1 illustrates. The description of the market strategies in terms of transition processes is, however, not an aim in itself. The main question is always in what ways the organisation of work in the firm and the training and learning of the people employed are related to these transition processes. For instance, does the organisation of work change when a car firm is transferred from being a non-franchised to a franchised enterprise, and how do the changes in market position and work organisation affect the training and learning opportunities of the mechanics?

Figure 2.1 - Developments in the last 10-15 years in the 21 car firms that have been studied

	Country	total staff	development of staff numbers*	year of establishment	developments in last 10-15 years
I Franchised					
A *Component (specialist) dealership*	1. Sp.	4	-	1970	• little changes; difficult to keep equipment up to date because this requires high investments
	2. The Neth.	7	+	1965	• developing a new car-electrics department since 1990 when a new car electrician was recruited
	3. Ire.	8	-	1934	• uncertainty about Lucas dealership; further specialisation of firm in car electrics
B. *Make dealerships*	4. The Neth.	4	+	1993	• newly started SEAT dealership because this offers better future prospects than a non-franchised start
	5. Ire.	4	+	1991	• in 1994 transition from non-franchised to SKODA dealership to generate more growth prospects
	6. Ire.	8	+	1985	• transition from non-franchised to Peugeot dealership in 1993 to generate support for further growth
	7. Ire.	18	+	1984	• transition workshop from after sales service to profit centre; development towards total quality service
	8. The Neth.	11	+	1967	• transition from low-tech cars to high-tech cars; children are joining management of firm
C. *Authorised workshop*	9. Gr.	5	-/+	1973	• transition from non-franchised to authorised KIA workshop in 1993; plans to become integrated KIA dealership
	10. Ire.	8	+	1984	• sons have taken over in early 1990s and are converting workshop from family firm to business
	11. Gr.	15	+	1932	• son has taken over; dependency on car manufacturer is increasingly felt to be a problem
II Non-franchised					
D. *Workshops with a strategic concept*	12. Gr.	9	-/+	1973	• transition from authorised ALFA-Romeo workshop to non-franchised; re-establishing position
	13.				
	14.				
E. *Workshops with same specialisation*	15. Sp.	6	0	1956	• son has taken over; 35% of turnover in Citroen cars; combating the negative consequences of the RENOVE plan; competing on personal treatment of customers and permanent training of mechanics
	16. Sp.	5	+	1990	• specialising in IVECO lorries and four-wheel vehicles and, in particular, in mechanical repairs
	17. Gr.	4	0	1982	• specialising in OPEL cars, in particular diesel- engined OPEL cars; the entrepreneur as trainer and coach
	18. Ire.	2	+	1992	• newly started workshop, specialising in Mitsubishi space wagons
F. *Workshops without specialisation*	19. Gr.	1	-	1965	• few changes and few prospects
	20. Sp.	2	0	1990	• few changes; problems in attracting new customers/cars
	21. Sp.	3	-		• little changes

* + = growth in staff
- = decrease
-/+ = decrease followed by growth

As has been pointed out, the distinction between franchised and non-franchised firms is far too broad to obtain a good understanding of the ways in which micro car firms try to maintain or improve their market position and economic strength. Within both categories there are different modes of strategic market-positioning, mostly based on entrepreneurial decisions with regard to some form of specialisation. It is for this reason that we have distinguished six types of micro car firms (see also Figure 2.1). The presentation of the 21 micro car firms in this chapter will be in accordance with this typology.

2.1 Component dealerships

Our survey includes three Bosch and/or Lucas dealerships. In Figure 2.2 we give an overview of some relevant characteristics of these three companies.

All three companies have already been in existence for many years. The Spanish firm only operates in one area of the motor industry. The Irish and Dutch firms have different sections. The repair and maintenance activities in these sections are carried out by specialised mechanics. There is little or no exchange between the specialists in the different sections or areas. Flexibility is based on buffer stock (Dutch firm) or outsourcing (Irish firm). The specialists in the Dutch firm do not just carry out the actual repair and maintenance activities but also act as receptionists, storemen and administrative staff. In the other two firms there is clearly more division of labour.

All specialists in the three firms - on the basis of initial vocational education (the Dutch case) or in-house training (the Irish and Spanish cases) - have a sound knowledge and good understanding of the basic principles of their job. This basic knowledge enables them to work through problems to their final conclusion. This is why most of the updating of their skills takes place by learning at the workplace. These specialists mostly solve problems on their own, but when necessary specialists in one and the same department join forces to solve difficult problems, and in doing so learn a great deal from and with each other.

The specialists mostly adapt their skills when their firm is confronted with new models of engines/cars or new equipment, but the opposite may happen, as the Dutch case illustrates. In this case the product-market combination of the firm has been changed - a car-electrics department had been established - after recruiting a skilled and experienced car electrician.

The competitive advantages of specialised firms of this type are obvious: for the time being make-dealerships and non-franchised workshops have neither the skills nor the equipment to carry out this kind of repair activities as quickly and cheaply as they can. All three entrepreneurs are aware, however, that the times are changing. They expect that the volume of business will not grow because new cars require less maintenance (the Spanish and Dutch entrepreneurs) or because of the fact that increasing numbers of franchised dealers are training their staff to provide these services themselves (the Irish and Dutch entrepreneurs). This is part of the strategy of the car manufacturers to improve customer relations. The Dutch firm has very good accessibility, including for trucks and coaches, and a major part of its turnover indeed comes from transportation firms. This implies that the Dutch entrepreneur is less dependent on other garages and hence on the strategies of car manufacturers. The Irish and Spanish entrepreneurs are aware that the poor accessibility of their firms is an impediment but do not see a solution to this problem at present.

In the following we will briefly present the three component dealerships.

Figure 2.2 - Characteristics of three component dealerships

		Lucas & Bosch dealer	**Bosch dealer**	**Former Lucas dealer**
1.	Country	Spain	The Netherlands	Ireland
2a	Age of firm	26 years	31 years	62 years
2b	Under current management	26 years	31 years	10 years
3a	Activities	• diesel engines	• diesel engines • air brakes • car electrics	• car electrics • sales electrical • products and garage equipment
3b	Customers	• other car repair firms: 60%	• other car repair firms: 30%	• no information
4	Competitive advantages: efficiency based on:	• specialised skills and equipment	• specialised skills and equipment	• specialised skills and equipment
5	Important market developments	• new diesel cars require far less maintenance/ repair work; number of Lucas dealerships is decreasing sharply	• dealers provide these services increasingly in own workshop	• car manufacturers are training their dealers staff to provide these services
6a	Total workforce	4	7	8
6b	In workshop	3	5	3
7	Organisation of work	• specialists, doing only repair and maintenance • no further division of work between the specialists • reception and administration is done by others	• specialists in every activity (see under 3), also doing reception/ intake and administration • specialists have a great deal of autonomy • flexibility based on buffer stock	• specialists (car electricians), only doing repair and maintenance • reception and administration is done by others • flexibility based on relations with subcontractors
8	Skills of technicians based on:	• in-house training • dealer training • learning at the workplace	• initial vocational education, • dealer training • learning at the workplace	• in-house training (because there is no recognised apprenticeship) • dealer training • learning at the workplace
9	Plans for the future	• plans to move to other premises to improve the accessibility	• no specific plans	• no specific plans, although the firm is suffering of from poor accessibility

Case 1: The Spanish Bosch and Lucas dealership: specialists in diesel pumps

This company has seen better times, as revealed by the fact that it employed 7 people at certain times. At present the firm has more or less recovered from a severe crisis, lasting from 1992 to 1995, which affected the whole sector.

There are three people working in the repair shop: the owner of the firm and two mechanics. The owner acts as receptionist and does the paperwork. The two mechanics are very experienced. One of them is 40 and the other 51. Neither of them has initial vocational education for the motor-vehicle sector but both have always worked in this sector. There is no functional division of work between the two mechanics.

In other repair shops with more staff there is likely to be a division of work between rotary and in-line pumps. But not here. This is not our case. Each of the employees has his own work bench.

Continuing vocational training is highly appreciated by the owner and the two mechanics. The owner has attended many courses throughout his professional life. Nowadays, as he devotes most of his time exclusively to the reception of cars and paperwork, he has reduced his participation in such courses.

I have taken part in courses, I do not go very often now, but I did in the past. Now it is more convenient that they (the mechanics) go. I deal with most of the bureaucracy and in the repair shop I only make the diagnosis. It is not that I take an injection pump and do the whole repair work and assemble it in the car; this is something that they do. That is why I am more interested in them being more updated than myself in this respect.

Updating of the qualifications of the mechanics is very important

a: Because of the technical progression of injection pumps.

There are new developments in pumps every day. Every six months a new pump comes out, which is the same but with an additional mechanism. Well, they have to be updated.

b: Because the competitiveness strategy is oriented towards service quality, for instance, good service to the customers coming from dealerships is one of the factors which ensure that authorised repair shops will continue as such.

There is an agreement and if the clauses of the agreement are not fulfilled, such as giving good technical assistance in warranty services... We have to take care of Lucas pumps and Bosch pumps under warranty. Then, if they reach the conclusion that Citroen, Opel or other makes complain that they do not get good technical assistance from the specialist - this could be an argument for removing them from the group of authorised repair shops.

The owner is aware that this is a real danger if his firm does not work well.

What happens is that their number is being reduced, even at services level. For Lucas we were about 251 ... all over Spain. Now there are only about 211 or 210 left. And it has been predicted that by next year 195 will be left.

Actually, the two mechanics have taken part in several continuing training courses, specific to diesel engines, in the past three years. As this is an authorised repair shop, there is no difficulty in having access to continuing training organised by pump manufacturers such as Bosch and Lucas.

What they (the mechanics) do is recycling themselves, through the courses provided by Lucas and Bosch. Next September one of them will go to Madrid on a course provided by Bosch. The other one has recently done a course at Lucas.

For many SMEs the training of employees is hindered by the absence of a tailor-made training provision or by the difficult accessibility of the training. For this entrepreneur this is hardly a problem. The absence of one of his employees is, however, is a serious problem because this means that half his staff are absent.

It is a problem that small repair shops, those with few employees, have, as well as those with a lot of staff. But our problem is more serious. If we have a very busy time and, for instance, one of the mechanics has enrolled on a course for the following week and has to leave, well...

The small size of this workshop plays a significant role in the fact that training off the job is combined with training on the job. When one of the mechanics has followed a course he transfers the new know-how acquired from the course to his fellow mechanic, partly through written course materials and partly through additional explanation. When a pump with new characteristics arrives in the repair shop, they take advantage of the opportunity and the participant on the course explains the details and procedure for the repair.

When a new pump arrives, then, the participant in a course informs the other one and myself: "Look, this is for such and such".

Besides learning from each other, learning *with* each other is also very important. This happens in cases of difficult repairs. Discussion and the joint search for possible solutions to the breakdown then imply a joint learning process at the workplace.

It is very evident that the relationships with the two diesel engine pump manufacturers are of great help in updating the skills and knowledge of the technicians. In addition, the warranty periods for Lucas and Bosch pumps and the fact that most repair shops do not have the specialised knowledge and equipment ensure, in a certain way, a fixed stock of customers.

Large dealerships can do this (do all types of repairs). Some do it, but very few do diesel repairs. They take them to others because it is not profitable to have a specialist in diesel, spare parts at hand... and facilities which are costly to acquire and maintain.

However, there is also a reverse side and that is the strong influence of the manufacturer on margins and workshop equipment.

When I repair a Lucas pump under warranty, I take it out, strip it, replace the piece which is not working, test the pump, put it in the test bed and assemble it in the car if it is covered by the warranty. But the warranty only covers the laboratory tasks; taking the pump out of the car and assembling it in the car is chargeable to the vehicle manufacturer. The car manufacturer gives the warranty. Lucas has nothing to do with this. But there are other cases in which Lucas pays for everything. Then I charge them a bill for 6 hours' work and they refuse to accept it. This is only 4 hours and a half. They have their scales. I have my scales. They have scales based on new products - there are no rusted screws, there are no *difficulties in stripping it. But when a vehicle has been on the roads for 7 or 8 months, the difficulties found in repairs are greater. And they take longer. They do not understand this. Another thing is equipment, the tools required for each specific case. They have all of them. The repair shop may have them or may not. If I do not have them, that is my own business. I take more hours to do it. More hours when I will not paid for what I do.*

Case 2: The Dutch Bosch dealership: 3 sections each run by specialists

The organisation of firm in this firm is characterised by three aspects.

a. Hardly any indirect functions

The firm has hardly any indirect functions. Only the owner/manager performs a number of general activities, but he also devotes a large part of this time to picking up and delivering 'work', through which he also maintains contact with his customers. The book-keeper also performs some executive tasks (such as sales) in addition to his actual work. The lack of indirect functions means that executive staff have a broad range of tasks. The counter work in the shop and work in the stores are carried out by the various employees. Planning and administration are also kept up-to-date by each employee. They make up the slips for the customer, and time recording per job, the recording of machine hours etc. are also done by the employees themselves. The consequence of this principle of organisation is that the job content of each job is broad and variable.

b. Flat organisation

The firm additionally does not have any manager or a workshop head. The qualified employees in the various departments organise their own matters, and the distribution of work between the departments is also done in a more or less natural way by the employees themselves.

No, I do not have any specific head of workshop or in general someone who distributes the work. If a customer comes in with a fuel pump, with part of a brake system or something like that, the book-keeper or I myself or whoever happens to be behind the counter passes the work on to the department concerned. If, for example, advice is required from one of the specialists, then this specialist is brought out. And the departments plan their own work, I don't do that myself either: I let them sort that out themselves. That is not common practice, but reason that I have already earned 100,000 guilders on 1 January by not having a salesman, and you can do the same with a workshop head and receptionist as well..... I simply expect people to fill in for each other... and that generally works well. Obviously there are problems as well, but it works well..

c. Internal flexibility by forming buffer stocks.

The supply of work between the various department is obviously not stable. In these cases the employees prefer to work on reconditioning parts in their own departments rather than switching department temporarily.

It doesn't always work the way I would like it to. Passing work on to the department when it comes along should take place automatically, but as so often happens everyone fights his own corner ... They would prefer not to do it but it should be possible. They say they are too busy and usually I can't check if that's true. They prefer to solve their own problems ... And this broad usability cannot be brought about by sending them on a few courses, you need a lot of experience. And generally what happens is that if the electrics man for example is away for a day the work is left untouched for a day. And if he doesn't have enough to do he does reconditioning work, there's always that kind of work. And if customers come with an urgent problem all they have to do is set up a reconditioned item. If they don't want that, they're not in such a hurry. It is often simply a question of price.

These employees each have a large degree of craftsmanship in their fields, based on good initial vocational training and years of experience in the occupation, and this also greatly affects their ability to keep up-to-date with developments in their specialist field. They make direct use of the information provided by the suppliers (Bosch and Lucas). They are usually able to do so because of their high level of craftsmanship.

We do not specialise in a make of car. What matters is whether Bosch equipment is installed in a vehicle, and if so Bosch provides us with support. We used to get all the specifications for example on microfilm, now much of it is on CD-ROM. We usually get by this information. We are supported by Bosch and Lucas, and with this combination you are fairly complete.

In addition, courses are also attended. These are chiefly courses on new fuel pumps and on new applications of electronics in cars or workshop equipment.

Yes, there are also courses that are taken. New fuel pumps, for example. These can be organised through INNOVAM or the importer. It is less the case for brakes. The changes there are much more gradual ... and you can always contact the supplier directly if problems occur.

As mentioned, learning at the workplace is more important than off-the-job training for these very experienced mechanics. The following methods of informal learning are mentioned by them as being particularly important:

- learning by looking for/solving problems yourself
- learning by making use of manuals and self-study material.

All mechanics mention these as important ways of keeping their knowledge up-to-date. The following are also mentioned as important by a majority of the mechanics:

- learning from or together with colleagues (asking for advice or help or solving problems together)
- learning by experimenting (practising with new equipment or doing work of increasing difficulty).

The car-electrics department of the firm was started up 6 years ago. At that time a new employee was taken on to support the owner. The newcomer came from a specialist car-electrics firm and did not want to give up his occupation. At present he is working full-time on this specialisation. A new service has therefore in fact been developed in this firm due to the qualifications which one of the employees had.

Case 3: The Irish 'Lucas dealership': car-electrics specialists

For the last four decades this firm has been an agent for Lucas products. Lucas is a British manufacturer of electrical equipment. They sold their electrical products in Ireland through a wholly owned Lucas company. Part of the firm's success was due to being associated with Lucas as their products were the dominant units used on British cars, which at one stage held 70% of the Irish market. They also provided technical training and product knowledge for their dealers. At one time there were 16 Lucas franchise dealers throughout Ireland.

We held one of those franchises up to about 5 years ago when Lucas departed from Ireland and sold their business to an Irish firm. This firm is the sole importer of Lucas products into Ireland (Republic of). Today we do not know where we stand as there was no formal agreement between ourselves and the new firm. We still buy products from the new distributor but we are not clear on our official position in this matter. We still retain a modem link with Lucas UK so that we can request technical information.

The firm is an electrical company operating in two main areas of the motor industry. Firstly they are one of a small number of auto-electrical specialists dealing with service, repair and deciphering of vehicle electrical problems for the motor industry and the general motoring public. The other section of the business deals with the sales and repair of a large range of electrical products and garage equipment.

We get work from other dealers franchised and non-franchised and a large proportion of passing trade. We are, however, in a very bad location. Access and parking is a problem. No heavy vehicles can reach us and this has worked against us. If we had better access and parking we could increase our staff and double our throughput. We should have made a move 20 years ago and if we had done so we would have either been one of the strongest auto-electrical firms in Dublin or have gone to the wall. We have survived where we are and I suppose there is no point looking back.

Because we are a small specialist company we have to be as multi-faceted as possible. This helps particularly when one side of the business is slack, usually the other sections are not. For instance the garage equipment area is very buoyant at the moment but we are having difficulty with the drop-off in sales of the replacement starter motor and alternator sections of the business. This is a small percentage of our overall trade but it is a very profitable area, we have not been able to find the reason for this problem to date but it is something that will have to be resolved speedily.

At present the firm is in good shape, it is in the black. For the previous six years we had difficulty in maintaining margins. We realised the level of losses and reduced the overheads dramatically. Even though we are in a profit situation this year we realise we have to be careful or we will face the same situation as in previous years.

The firm is now thinking about taking in an apprentice this year. The firm has not employed apprentices during the last seven years but intends to employ one this year. They will, however, train this apprentice themselves as they feel in-house training is very adequate to bring the person to the standards the company requires.

The training policy of the firm since 1934 has been to train all employees in-house. We have always maintained that if you turn apprentices into qualified auto electricians who have a *solid basic knowledge of electrical principles they could tackle most jobs presented to them and if necessary work out specific problems from their knowledge and experience. When we had large numbers of apprentices most of the training was carried out in a semi-structured fashion, the foreman or chargehand would show the staff through practical means how to use the diagnostic equipment, understand the principles of electricity, locate and repair faults in electrical systems and carry out repairs to wiring looms. Today, because we have experienced motor-vehicle electricians training is carried out on an ad hoc or need-to-know basis.*

Most of the courses attended were given by Lucas, but they take advantage of this training provision on a less regular basis than they used to do.

The staff have attended special courses over the years e.g. electronic ignition systems, tachographs etc. When they return they do not usually teach each other in an organised way but as the work arrives they discuss between themselves how the job is done. We also leave the manuals or instruction notes on the premises so that all the staff can read them when they need to.

When we were a Lucas agent the employees received training on their products and were updated regularly from the factory on the major changes being introduced. At present we have a modem connection to Lucas UK and if a particular electrical job comes into the workshop that we have not tackled before we then contact Lucas and get the necessary details immediately. We find this service is excellent and helps us to complete the job speedily.

Most of the updating of knowledge and experience gained by our employees today is learned on the job. The secret of being able to learn from doing is to train or employ good auto-electricians who have a sound knowledge and good understanding of the basic principles and who can work through problems to their final conclusion.

We see in this case the same ad hoc - but very relevant - learning processes as in the other two specialist firms. When necessary the mechanics join forces to solve difficult problems and in doing so they learn a lot from and with each other.

Normally we work as individuals and when a job comes into the workshop that is unusual we discuss who will do the job between us, for instance we recently got a job to repair a brushless alternator. We had no experience of this type of alternator so we stripped it down to find out how it worked because there was no information available on the product and from our experience we were able to repair it. We later received information about the product and had repaired it as the manufacturer had recommended. This strengthened our judgement and reinforced our confidence in our repair techniques.

2.2 Make dealerships

Among the 21 studied car firms there are 5 integrated (sales & repair) make-dealerships. The number of employees in the workshop in these 5 integrated dealerships varies from 2 mechanics (SEAT dealership; SKODA dealership) to 7 in the NISSAN dealership.

The two smallest dealerships (cases 4 and 5) have much in common. For instance both are relatively new firms. More important for this study is that the workforce in both workshops is identical: in both cases repair and maintenance activities are carried out by a skilled mechanic with the support of an apprentice. There are, however, some differences in the organisation of work between these two firms, and this is found to have consequences for the learning processes at the workplace. To illustrate these as clearly as possible we will present a description of these two firms, in which similarities and differences will be compared.

The other three make dealerships will be presented separately. All three firms are going through a process of transition (see also Figure 2.3):

Case 6: from independent to franchised car repair and car distribution firm

The owner started this firm in 1985. In 1993 his firm received the Peugeot franchise. This was the starting point for a large number of changes. Another important event was the appointment of a service manager a couple of years ago.

Case 7: from after-sales services to a profit centre

A major development in this firm is the upgrading and expansion of its service department since the appointment of the present service manager.

Case 8: from low- tech to high-tech car

The owner started this firm in 1967. Since 1971 his firm has been a franchised LADA repair and distribution firm. The position of LADA in the Dutch car market has deteriorated over the last ten years. In 1995 the firm obtained the DAEWOO franchise and is trying very hard to make a success of it. In the last few years children of the founder have been joining the management of the firm.

In all three firms the changes therefore have to do with or are accompanied by new people coming into the firm. In cases 6 and 7 an important role is played by the newly recruited service manager. In case 8 children of the entrepreneur are starting to play a significant role in the firm.

Figure 2.3 illustrates that the recent developments and changes in these car firms have consequences for the organisation of work and the training/learning opportunities for the mechanics. In the description we will focus on these issues. But first we will present the two small dealerships of small-engined cars.

Figure 2.3 - Characteristics of three make dealerships going through relevant transition processes

		case 6	**case 7**	**case 8**
1.	Country	Ire.	Ire.	The Neth.
2a	Firm has existed since	1985	1984	1967
2b.	Firm franchised since	1993 (Peugeot)	1984 (Nissan)	1971 (Lada)
2c.	Current franchise since	1993 (Peugeot)	1984 (Nissan)	1995 (Daewoo and Lada)
3a	Workforce at start	2	9	3
3b.	Workforce now	8	18	11
4	Relevant transition processes	• from non-franchised to Peugeot franchise • from sales of used cars to sales of new cars • from after-sales service to total service concept	• from after-sales service to quality service • upgrading and expansion of workshop since 1988	• from low-tech cars (Lada) to high-tech cars (Daewoo) • from less to more demanding customers • children are joining in management
5.	Arguments for transition to (another) franchise	• improve business prospects • getting necessary support for further expansion	• irrelevant to this case (Nissan franchise from the start)	• deteriorating position of Lada in the Dutch car market • changes in sales patterns of Dutch customers
6	Consequences for staff and organisation of work	• more staff • more (hierarchical) division of work • (new) service manager has taken over customer contacts	• more staff • more (vertical and hierarchical) division of work • customer care is becoming more important for everybody	• more requirements with regard to technical skills and the ability to deal with (more demanding) customers • apprentices exchanged by skilled mechanics • hierarchical model exchanged by team model
7	Consequences for training and learning	• access to Peugeot distributor training • distributor training is explicitly connected with on-the-job learning processes	• (distributor) training is not only important for updating technical skills but also for improving the skills in dealing with customers • preference for different learning-by-doing methods is related to skills level and organisational position of mechanics	• access to better distributor training supply of Daewoo • learning potentials of the new team-based work organisation are not fully utilised • coaching of new-comers, in particular new apprentices, in near future

Cases 4 and 5: Two small dealerships of small-engined cars: workshop as after-sales instrument

The two small dealerships have a great deal in common, as Figure 2.4 shows.

In both firms the entrepreneurs prepared the launch of their own business very well. The SEAT dealer is an educated car sales person. After this education he worked for 5 years as a car salesman before starting on his own, something he had in mind for quite some time.

I have always said: a time will come when I will start my own business. I got that from my father. My father was also an entrepreneur, although what he did had nothing to do with cars. But he also encouraged that.

The SKODA dealership was started by two partners (Mark and Peter). Both principals had been employed in a large Opel dealership in Dublin. Mark worked as a mechanic in the service department and Peter had nine years experience in the sales department as senior sales executive and then as leasing manager. While with their previous employer Mark and Peter became friends and after many months of deliberation decided to set up their own garage. Both were convinced that they could make more money working for themselves. As Mark explains:

Personally, I felt I could do a lot better (setting up on our own) then I was doing at the time. We were on a high when we left and we were very positive that it would work out. Obviously we were hoping we would get a dealership but when we started originally we had no intention of becoming a dealer straight away... We were literally thrown in the deep end... [we were] just finding our feet... [trying] wherever we could to make money: be it body work, servicing or sales... we weren't looking at the big picture at that stage.

When the business was up and running the partners then considered becoming a dealership which they felt would generate more growth prospects and give them a better future.

In both cases, the SEAT dealership and the SKODA dealership, the entrepreneurs thus started their businesses driven by positive motives: they really wanted their own business and they really are growth-oriented: they want to enlarge their business in the (near) future. Research has shown that the chance to succeed as a small-business owner is greater when people are driven by the positive desire to become an entrepreneur than if they start a business because they are more or less forced to do so, for instance when they lose their jobs and there are few opportunities in the labour market to find another job.

In both firms car *sales* is the core business. The workshop is - at least for the time being - viewed in this perspective: it is one of the services of the business, but it is an *after-sales* service, that is to say a service not primarily offered to repair cars but to service customers so well that this results in solid and lasting customer relations. To quote the SEAT dealer:

A sale is just a short trip... a few hours is all it takes ... people are happy to be able to go and buy a car ... But then they have to drive it for three years or more. If there are problems, that is not so important, the most important thing is how the problems are solved. And the workshop does that. As a salesman I keep in touch with the customer, I know what is up with his car, have a little chat. There are more and more makes of car and the cake is not getting any larger. Service .. that is becoming ever more important. Because what is it all *about? I am convinced that the most important thing is to tie in customers. For a car firm it is true to say that we, the salesmen, sell the first car but the second and third ones are sold by the workshop. You can do something well in the sales area, but if things are not going well in the workshop a customer will say ... don't go there. Holding on to customers is a matter for the workshop.*

Figure 2.4 - Characteristics of two small dealerships of small-engined cars

		SEAT dealership	**SKODA dealership**
1.	Country	The Netherlands	Ireland
2a.	Firm has existed for	4 years	5 years
2b.	Firm is franchised car firm	from the start	since 2 years
2c.	Arguments for starting/ becoming a franchised car firm	• more appeal to customers • has better growth prospects • competitive advantage because SEAT cars are cheaper than comparable cars of other makes	• has better growth prospects • (technical) support by SKODA distributor • value-for-money car to personal customers • exploiting former experience as employees in a franchised car firm
3.	Number of entrepreneurs	1, assisted by his father	2 partners
4.	Age of entrepreneur	30 years	approx. 30 years
5.	Type of entrepreneur	salesperson	salespersons (one trained as mechanic)
6.	Floor area	600 m^2	500 m^2
7.	Workshop force at start	2 mechanics, one laid off because too little work	2 mechanics, one laid off because too little work
8.	Workshop force to date	1 skilled mechanic (Mark) 1 apprentice (Johan)	1 skilled mechanic (Dave) 1 apprentice (Paul)
9.	reception of cars	mechanics	owners/partners
10.	sales department	owner + his father	2 owners/partners
11.	other personnel	accounts (part-time) (car) cleaner (part-time)	accounts, car cleaner (both on sub-contract basis)

When asked which tasks they are doing in their present jobs the majority of the 61 employees in the 21 car repair firms studied give answers such as: 'repairs to mechanical parts', 'general servicing of vehicles', 'electrical and electronic repairs', 'overhead and repair of bench work', 'running of workshop', 'all tasks from administration to working on cars', 'electronic fuel-injection fault diagnosis', 'body repairs and spray painting', 'parts and service administration and reception', 'dealing with customers, counter and phone', 'working in workshop', 'all mechanic duties which are required of me', 'valeting and some small repairs', etc.

The workshop foreman of the SEAT dealership is clearly an exception. He describes his tasks as: '*All that has to do with after-sales*'.

In both firms a combination of a skilled mechanic and an apprentice run the workshop. The mechanic in the SEAT dealership has followed vocational education at an intermediate level for the car sector. The mechanic in the SKODA dealership is a highly qualified motor mechanic who served his apprenticeship with CIE, the Irish state transport company, and is a registered BMW technician. He also studied at night for an advanced motor technician course. He has a number of years of experience working for the largest BMW dealer in England and also worked for a BMW dealer in Australia. In fact he is overqualified for the current level of SKODA technology.

The fact that both dealerships employ a highly qualified mechanic does not imply that they undertake all repair activities themselves. In the SKODA dealership the skilled mechanic (Dave) handles specialised repair work such as wiring and fuel injection and the apprentice (Paul) does the more routine service work. However, the director's policy for specialised repair work on cars, particularly on cars which have exceeded their warranty, is to repair them where they can but where they cannot to send them to specialised garages. Repairs such as wiring, gearboxes and fuel injection systems - particularly in non-Skoda cars - are likely to be sub-contracted to specialised garages. As the director points out:

It's all geared towards efficiency. We could do the job (the specialised repairs) ourselves...but it might take us eight hours and a specialist two. So there's no gain for anybody. We wouldn't be justified in charging it out (to the customer) for eight hours.

In the SEAT dealership the same strategy is applied. In this recently started firm, the emphasis is still strongly on sales of new cars. This is logical in view of the fact that it first and foremost needs to build up its own circle of customers. A smoothly running workshop is viewed as a condition of and support for sales. Service that works well is particularly important for good customer relations. A complete service is provided to the customer, but at the same time there is no aim to expand the workshop. No major investments are therefore being made in the workshop, because the number of customers is still too small to make costly investments cost-effective and secondly because it is easier to control these costs if certain types of work are contracted out. The firm has fixed relationships with a number of other firms for jobs which the firm cannot yet or does not yet want to carry out itself to be carried out by them instead.

Examples of jobs that are contracted-out are fitting equipment (sunroof, LPG etc.), damage repairs and spraying, wheel balancing and repairs to electronic parts.

I only have two men in the workshop. If I was to expand, I would first have to invest 100,000 guilders. Damage repairs are unprofitable for us. The same applies to wheel-balancing: balancing equipment costs a fortune and has to be paid for. A large firm has so many customers that it can cope ... Our customers whose cars are damaged do come here. We take care of everything for them, but we put the work that has to be done out to contract.

This also applies in the field of electronics.

The problem with electronics is that you have to be able to make a diagnosis. It used to be possible to do a repair on a car, but nowadays cars are built in such a way that the part is almost always replaced. So if it is diagnosed that the part is defective .. you have to replace it. Repairing electronics hardly ever happens. We have an electronic test box from SEAT where you put a plug in and read the car's memory and that tells you exactly where the fault is. Usually it is something simple. Things like a starter motor or a dynamo can be overhauled, and we contract that work out.

The firm chooses to carry out a limited part of the complete package of workshop services itself. The customer can address all his questions and problems to the firm, but for much of the work the firm actually acts as an intermediary in that a large proportion of the work is contracted out to specialist firms.

However, in the future the SEAT entrepreneur wants to develop into a large dealership.

The best future is reversed for the larger dealership. A large dealer achieves a high turnover rate and gains far more revenue from the workshop. The far higher rate of workshop occupancy provides profit, not just sales.

This is already recognisable in the sales strategy of the entrepreneurs.

In my firm turnover has to produce profit. Profit is of course the most important thing for everyone. But I would rather sell 10 cars to earn 5000 guilders than two cars. The return is obviously far higher in the latter case, but it gives me a kick when I drive around here and see a SEAT from my firm. And I also feel that if I put 10 cars on the road I have a much better chance of work for my workshop.

In the competitive strategy of both firms the full-service concept for the customers is essential. And this is the reason why they have hired highly qualified mechanics for the workshop. These mechanics have to be qualified to do the diagnosis, to handle (specialised) repair work and - in case the repair work has been done by the apprentice or was contracted out - to check and assess this before the car is handed over to the customer.

Only qualified mechanics can do such a job properly. Another reason for hiring well-trained and experienced mechanics is that they are responsible for running the workshop. Mark, the supervisor of the SEAT workshop, is responsible for the day-to-day running of the workshop. He is also the one who accepts the car from the customer, he carries out the work in collaboration with the apprentice mechanic and he delivers the car back to the customer. So all customer contacts in connection with maintenance and repair of cars are at the workshop itself. Contracting work out is usually also arranged by the workshop itself. The bills are made out by Mark (using an automated system) and the payment is also made through the workshop.

The mechanics do this themselves. Mark is responsible for the workshop. I only step in if I think something is not going the way I think it should. But if I simply see what the turnover is and if there are no complaints from customers ... who am I to say that things are not going well?

Yes, the customers arrange everything directly with the mechanics as well. I consider it very important that the customer has direct contact with the person who tinkers with his car, beforehand and afterwards.

Mark is also responsible for the work of Johan, the apprentice mechanic. The apprentice in principle works fairly independently, but Mark supervises and checks his work. He remains responsible.

Mark is the contact point. We are not big, we have one and a half men, I sometimes say, and Mark is head of the workshop, receptionist, senior mechanic etc. He is responsible. That also means that Johan is responsible to Mark and not to me. They work together in the workshop.

Until some time ago Dave, the service manager in the SKODA dealership, was given responsibility for booking new repair work into the workshop. The directors found after a while that the output of the workshop was falling and having analysed the job card records they found that the hours worked on car repairs had fallen. On further investigation they found that Dave was spending a great deal of time liaising with customers and less time actually carrying out repairs. Having discussed the matter between them and with Dave, the directors decided a new approach was necessary or the company would move into a loss-making situation. They gave Dave the title of workshop supervisor but took responsibility themselves for booking cars in. This new work organisation has worked better; it has allowed Dave to increase the number of hours he and the apprentice spend repairing cars.

Figure 2.5 - Informal ways of learning for the two workshop supervisors

		SEAT dealership (Mark)	**SKODA dealership (Dave)**	**Remarks**
Informal ways of learning:				
a.	learning by using handbooks, manuals	X*	X	Mark: 'should be used more' Dave: 'should be used more'
b.	learning by solving problems by myself	X	X	Dave: 'should be used more'
c.	learning by regular rotation by which you can keep your skills up-to-date	X	X	
d.	learning by doing non-routine repairs	X	X	
e.	learning by involvement in management, planning, etc.	X	X	
f.	learning by self-study books/ study books from apprentice courses	X	X	
g.	doing work with a growing degree of difficulty	X		
h.	learning from suppliers' instructions	X		
i.	learning by explanation of experts/ experienced people	X		
j.	learning from experiences or complaints of customers/users of car	X		
k.	learning by direct employee participation		X	Mark: 'should be used more'

* means: learns a great deal in this way

The two companies do not organise formal, in-house training for the mechanics but a certain amount of informal, work experience-related training takes place. There are many similarities in the way this informal training takes place in the two small dealerships. And these similarities clearly relate to the fact that:

- the organisation of work in these two companies is to a great extent identical
- the skills and experience of the staff in both workshops are more or less the same.

The workshop supervisors. In both dealerships there is a well-trained and experienced mechanic responsible for the workshop. Figure 2.5 shows the work experience-related training methods used by these two supervisors. There are many similarities in the ways incidental learning takes place. And these are clearly related to the solid initial vocational training of both these persons (in particular a and b) and their work situation (c to f).

Alongside these similarities there are also differences, and these are related to:

- organisation of work
- characteristics (skills and experience) of the employer
- relations with the make-distributor

As mentioned, Mark is responsible for booking new repair work into the SEAT workshop. Part of this task is talking with the customers about the problems of their cars and this gives him the opportunity to learn from them. Dave, the workshop supervisor of the SKODA dealership, is no longer responsible for booking cars in, and this implies that he no longer has much contact with the customers. This is clearly an example of how (changes in) the organisation of work affects the learning opportunities of the employees, including in situations where these employees have the same skills and experiences.

As Figure 2.5 shows Dave learns a great deal by direct employee participation. Mark has not as yet, but he expresses a strong preference for such a learning provision. The different backgrounds of the entrepreneurs play a significant role here. The owner of the SEAT dealership is an educated and experienced car salesperson, while one of the owners of the SKODA dealership is a qualified motor mechanic who, after he finished his four-year apprenticeship completed an additional two-year part-time advanced technician's course. Until this firm employed Dave, 18 months ago, this owner was himself in charge of the repair activities. If either Dave or Paul (the apprentice) have a problem they can discuss it with this owner who has over three years experience of SKODA cars. The SKODA dealership is a very small company and Dave and Paul are therefore in regular contact with each other and also with the owners.

Another immediate source of information are the SKODA manuals which give information and data on tolerances, settings, etc. If these sources cannot solve the problem, then the SKODA technical service manager can be contacted. To date this has not happened very often although Dave has a high regard for the SKODA technical manager and believes that learning from the explanations of experts/experienced people should be used more often.

The SKODA distributor organises 4-5 technical training courses per year - usually lasting one day - for the Skoda dealers which is geared towards service managers and senior mechanics. The SKODA distributor also organises an annual meeting for service managers and senior motor mechanics where solutions to common problems are discussed. The back-up of a large distributor and a large network of dealers means that a great deal of information is available on the type of problems that service repair shops are likely to encounter.

To date Dave has not been on any of the Skoda training courses. This is not unsurprising given the extensive training he received in the BMW dealerships he worked for in England and in Dublin. Though Skoda cars are increasing in sophistication they are not yet at the level of the BMW cars that Dave was servicing prior to joining this firm. It is likely, though, that Dave will be attending training courses when Skoda introduce a diesel-engined car in the near future since he has not worked on diesel cars for some time.

The SEAT distributor offers more or less the same support to his dealer network. There is a source of information, a help-desk which the mechanics can contact with all kinds of different questions. If necessary Mark makes use of this provision. Another learning opportunity are the training meetings that are regularly organised by the SEAT distributor. Usually such training meetings last one day. At these training meetings information is passed on in oral and written form.

That is organised well at SEAT. Whenever there is a modification something is organised so that you can keep up with developments. But particularly for the senior mechanic, if you want he can spend a day at the importer every month. At some stage you start selecting, though. I consider it pointless to send a guy when to learn about things he already knows. But he usually does go once every two months.

Everyone is free in principle to join or not to join ... but it is true to say that you are never worse off for going. You show your face again, you become known and if there is something for which you have to go to the importer there is nothing more annoying than if the importer says you ought to have been on that course ... They do not put pressure on anybody, but you are doing yourself a disservice if you do not do it, you need each other.

The SEAT importer finds out how business is progressing at the affiliated dealerships by conducting customer surveys and using mystery shoppers. If there is reason to do so, the entrepreneur in question is spoken to. The entrepreneur concerned considers this to be right because it is to everyone's advantage that the level achieved by the dealerships does not fall.

'It is often company blindness ... you have to take it seriously. You see, as SEAT dealers we want to grab a bit of the market and we do not intend this to be dragged down by a number of dealerships. I would rather see one of them disappear ... ultimately it is a matter of increasing turnover and profit. That is the reason why I started as a dealership and not as a universal firm.'

Apprentices. The apprentices learn a great deal by using handbooks, manuals and written information from the car distributor. More important, however, are the following methods of incidental learning:

- learning new things from or with help of the workshop supervisor
- learning by regular rotation of tasks by which they can keep their skills up-to-date.

Both ways do often occur in their work situation but in their eyes this cannot happen often enough.

Both firms show that tensions can exist between working routines in workshops and the aims and objectives of the apprentice system. The Dutch case illustrates that there can be tension between theory and practice

John learns here from the senior mechanic, and the senior mechanic of course does things his way and that is not always according to the book. So he learns here how to do things the best and easiest way, but at school he often encounters problems with this, it is not in accordance with the theory.

The Irish case illustrates that in firms there can be tension between the positions of employee and apprentice.

We're trying to bring Paul on on his own, trying to give him some harder work. At the start when Paul came, he was working with Dave and he was really double-jobbing if you like ... working with him but I really don't think Paul was getting anywhere - or Dave was getting anywhere. So we asked if we could split up ... so Dave is organising the level of work that he (Paul) can manage. He is able for most jobs - he could handle 85% of the jobs.

It is interesting that not just the workshop supervisors but the apprentices too believe that they learn a lot from solving problems, alone or together with colleagues. The Dutch case offers a good example....

Sometimes we have a car that has been written off or a defective gearbox. This gearbox is often replaced by another one, a new one or a reconditioned one, but you're still left with the old one ... You can keep that one and some time when there is nothing else to do or on a Saturday they will take it apart. It's done informally, it is pleasant ... They look to see what was actually wrong with it, and the nicest thing of course if they can also repair it! I can encourage that but I don't need to. They do that for themselves. It's good for me too. Yes, if they want to do it in working hours, we always give consideration to that ...

Case 6: The PEUGEOT dealership: transition from independent to franchised firm

This company came into being as the result of a burning desire that has driven the founder - we shall call him John - since he was a young man. He has always worked in the motor industry and his liking for the industry encouraged him to become the owner of a retail motor garage.

From 1968 until 1985 he worked for a Renault assembly plant. During these seventeen years he also traded in cars from his house. In 1985 the Renault assembly plant changed its operation to manufacturing components. John, who had already built up a reputation and was well known in the area for the sale of good used cars, left Renault and decided to become a sales and repair outlet operating from his house on a full-time basis. He operated his office from a caravan at his home. At this stage he employed one mechanic to rectify the trade-ins for future sales and to service and repair the vehicles while he sold the cars. The business developed very fast. In 1987 his daughter joined the firm and looked after the financial aspects of the company.

In 1990 he leased and moved to the present premises which are one mile from his house. The firm is now situated on what the local dealers call the Golden Mile with Mazda, Ford, Nissan and Opel dealerships. This means that the firm has to survive in a very competitive environment.

Since its inception the firm has enjoyed continuous growth. This has been achieved as a result of John being able to read and adapt to the varying social trends that have occurred since 1995. The choice of the new premises is an example of John's entrepreneurial skills. The new main-road site with a large frontage attracted many customers. To cope with the additional workload John employed a second mechanic on a casual basis. Both mechanics have a wealth of experience, one with 45 years (the casual one) and the other 25 years on a large variety of different makes of vehicle. At this stage there was a clear division of labour: John doing the sales part of the business and the mechanics being responsible for the service and repair area including the contacts with the customers. One of the mechanics was doing the additional work of chargehand and stores manager.

Soon the distributors became interested in the firm and in 1993 it received the Peugeot franchise. This was the starting point for many changes.

a. More pressure on sales

There is a set sales target each year for vehicles and parts fixed by the distributor.

The target demands set by Peugeot are extremely high, but this is to our advantage as the growth of the company has not yet reached its peak. When we started the Peugeot franchise in 1993 the number of cars sold that year was 14, in 1994 we sold 50, in 1995 we sold 78 and we hope to sell 100 this year. We are used to trade-ins but the scrappage scheme [a scheme operated by the Irish government to reduce the number of old cars, that is to say cars 10 or more years old] is better, it has worked for us. We also operate on tight margins because of the large number of other franchise and non-franchise dealers close to us which also means we have to work harder to keep our market share.

Up to 1995 the company was divided in two main areas, sales and service, which the entrepreneur looked after, and the administration which was the responsibility of his sister. In 1995 the management structure was rearranged and was divided into three different areas: sales (the entrepreneur), service and repair (the newly-hired service manager) and administration (the entrepreneur's sister). The service manager has a great deal of experience as a motor mechanic and as owner of a service and repair business. He has all the technical, management and customer-related skills the company required. From 1995 onwards the entrepreneur could concentrate on the selling part of his business. Although each director has his or her own responsibilities no demarcation exists.

We all pull together, that is the scene in a small company.

b. After-sales is becoming more important

Customer retention is very important if the sales target is to be attained. The entrepreneur is very aware of this and follows a clear strategy which is based on customer trust through customer care.

The best way to retain a customer is, once you do a job for a customer, treat them fairly and always tell the truth, because they expect now, more than ever, the job to be right. Our future remains in our own hands. By showing interest in the customers and dedication to our work we have increased our customer base. Finding time for customers is what matters in this business. A lot of people are not educated, particularly new customers. They do not realise the cost of repairs. With some customers we would have to phone them and tell him/her the cost of repairs before commencing the job. If the customer is not happy we will sit them down and hear them out. We take out the job card, we will discuss the problem with them so that we both understand what is happening. We are very particular about our work. We value it very highly. If the customer was irrational we would solve the problem and absorb the costs ourselves. To prevent this happening we try to make sure we do the job right first time.

c. Workshop: strategy to diminish the subletting

The franchise agreement has given the dealership the insight to continue to develop as it prepares them for further expansion.

Gaining the Peugeot dealership gave us great advantages. It provided us with the opportunity to sell new well-known products, the administration and technical assistance were second to none, and the training support systems provided us with the necessary standards to run a professional dealership. The only negative was the large initial investment in equipment for the workshop.

Prior to 1993 the firm was non-franchised and repaired and sold all makes of second-hand cars. They did not sell tyres, carry out electronic tracking, give a wheel balancing service or provide bodywork repairs but utilised the existing local expertise by subletting this work to them.

However, the high investments in workshop equipment must be made profitable. The entrepreneur is looking at large premises and at ways of clawing back some of the work they give to other garages such as alignment tyres and bodywork. But this is not easy to do in a micro firm where everyone, including the entrepreneur himself, has to do more tasks than just policy-making.

We are too busy doing the day to day business to look at a long term plan. For example we would like to build a body shop and provide a better overall service. However we try to make sure we discuss the customer's needs and problems as they arise and resolve them immediately. We value the service customers very highly, when sales becomes slack they are our life blood. We give the best service we can even to the smallest customer, and call them by name.

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d. Workshop: more division of labour

When the new service manager arrived the chargehand had to revert to his normal job as a mechanic and share the parts job with the new service manager. Another change is that the service manager has taken over the work of dealing with customers.

When it comes to dealing with customers, because some of the mechanics are in the firm a long time and know the customers quite well, we let them deal with them. In more recent times the service manager prefers to deal with the customers himself as he discusses the problems with the customer and test drives all vehicles with them prior to work commencing. He also re-tests each car when serviced prior to collection by the customer to ensure the quality of work. Any faults found are discussed with the mechanic concerned and fixed.

These changes led to slight difficulties in the initial stages. However positions settled down reasonably fast and now the workshop operates as a team.

e. Changes in the training and learning processes

Because all of the mechanics came to the firm with post-apprenticeship training they brought with them a wide range of and a long period of experience. This allows the firm to undertake all work that presents itself.

With the experience our staff have we can cover (service) all makes of cars.

Nevertheless, the franchise agreement makes the entrepreneur feel comfortable as there is back-up support in many ways, particularly when it comes to technical training.

In principle the mechanics can all carry out most jobs. They have their own specialisations but for some of the tricky or unfamiliar work Nicholas (the service manager) who is very experienced also lends a hand. We found distributor training to be a very important element in the dealership to maintain standards as we do not have formal learning or training periods in the garage but we make sure that the notes obtained from distributor courses are available to all in the workshop. The level of training required in the workshop is determined by Nicholas as he allocates the work to the mechanics. The types of course the staff attend is normally dictated by the courses that are available.

The updating of the motor mechanic's skills is the responsibility of Nicolas, the service manager. But as mentioned earlier, there is a great deal of discussion and consultation between the three directors.

We know from our management meetings through Nicholas that training and learning plays a large part in the updating of our staffs skills as we discuss training frequently.

It is obvious that the service manager is convinced of the importance of distributor training. An interesting point is that he is trying to combine this kind of training with the informal learning process within the garage.

Distributor training is an important element in our overall training plan because of new designs, extended warranty and customer satisfaction as well as maintaining overall standards. We rarely give formal staff courses on company time but we make sure that the mechanic who returns from a course (distributor) makes his notes available to the rest of the staff and discusses the contents with them. Sometimes this may take place during a tea or *lunch break or when a job with reference to the course arrives in the workshop. It is important that all the mechanics are kept up to date and are involved in the learning process.*

In the questionnaires the motor mechanics all confirm that the suppliers' instructions are very important in keeping their skills up-to-date. As stated earlier, the motor mechanics transfer the new knowledge from the distributor's training to each other during (a break in) the work. In fact this is the most common way of learning in this company: discussing and/or solving problems by mutual consultation between the mechanics. And this is in line with the fact that they all are very experienced mechanics. The mechanics confirm that learning from customers happens only occasionally and they would welcome more opportunities to do so.

Case 7: The NISSAN dealership: from after-sales service to a profit centre

This company is located in what the managing director describes as the city's 'motor-mile'.

Within a mile of this place you can find ten or eleven major car dealers; this means that consumers can, in a relatively small area, see a large number of makes: Volkswagen, Mazda, Mercedes, Ford, Toyota, Renault, Peugeot, Citroen, Fiat-Lancia.

The area is a mixture of lower-income residential and commercial properties. This means that in addition to the intensive competition that this company faces from other car retailers in the area, the area does not have a natural car-purchasing population in its immediate vicinity. The firm's main customer base is in more affluent middle-class suburbs to the north of this area and among businesses which are located in the inner-city area. Because of these factors, each new car sale is treated, according to the managing director, *as a conquest.*

Despite these difficulties the firm has grown from a standing start in 1984 to become one of the biggest Nissan dealers in the country. The company has gained a reputation for offering a quality service and also for being fair and trustworthy to customers. To a large extent, the firm has gained business from the relatives and friends of satisfied customers. The company's sales department utilises a computer system which allows them to keep track of former customers who may be thinking of replacing their cars. The management is aware, however, that a sales strategy based purely on personal contacts will not be sufficient on its own in the future. The company is considering using mass advertising policies - or at least impersonal approaches - in the future to attract new customers.

The sales department was the engine which propelled the company in the first few years of trading and that in turn took the parts department with it.

The service department did very little retail work, i.e. work for which the customer paid, but did a lot of internal work such as readying cars for sale and repairs covered by warranty.

While the firm's success in the first period of its existence was developing a strong sales presence in a competitive market, the second major development was the upgrading and expansion of its service department. Since the appointment of the present service manager in 1988, the service department has grown in numbers employed and in terms of the services provided to the general public: it now handles bodywork (which was previously subcontracted to another garage) in addition to car servicing and repairs.

Perhaps a more fundamental change has been the realisation that the service department can be an important part of the company's sales and marketing process as well as being a profit centre in its own right. In the early days, only 50 per cent of the people who purchased a new car from this company returned for repair work. It could be said that the service department had a low visibility profile - compared to the sales and spare parts departments - and that they were seen primarily as just fixing cars and not actually selling a service. As the service manager, comments:

People will come in to get their car serviced and will buy a car in the garage where they get it serviced - that was never seen as an aspect of sales at all; you never felt that the service had [anything] to do with sales - that was different - [you never felt] that the service man was actually selling anything - the service man was just fixing cars - we [in the service department] were never seen as selling a service.

This attitude is changing as car manufacturers and retailers realise the importance of professional and customer-oriented service departments as a means of retaining customer loyalty. As the service manager puts it:

After-sales is customer retention: our chief job [in the service department] is customer retention - not fixing cars!

The company has now developed, and is continuing to develop, a service department which is more customer-oriented as well as being technically proficient.

There are nine people working in the service department, headed by the service manager (John). Under the service manager there are two separate departments: the workshop (foreman, 3 motor mechanics and one apprentice) and the bodyshop (foreman, panel beater and spray-painter). All the motor mechanics in the workshop are qualified, having completed their four-year stint through their four-year apprenticeship. The foreman and one of the motor mechanics has done an advanced technician's course. However, the workshop foreman - the same holds for the bodyshop foreman - was not only appointed in this position on the basis of his technical skills. Being able to relate to customers is also seen as a vital part of the foreman's job.

So when we chose the foremen, not only did they have to be technically good, they certainly had to be able to deal with customers - and that would be very, very important - [that] they would be able to talk to a customer and - particularly from the workshop foreman's point of view - he would spend time - if the customer had a problem - he would road test the car with the customer to find out exactly what the customer was talking about - so he would have to be able to deal with customers - he must be able to talk to the customer in layman's terms and then turn that into technical language for the mechanic.

In training the foremen, particular emphasis has been placed on developing their customer relation skills.

You see, running a workshop is basically fire-fighting in that you are dealing with crises all the time - you're dealing with somebody else's crises, that's it. No matter how well you are organised you're dealing with crises the whole time. Because even if someone comes in for the most basic, simple service it's a damn inconvenience for them. So the person who is dealing with them has to understand that first of all. The guys that work on the floor tend to *think that a car is a car is a car. They don't see it as an investment [as the customer does]; they see it as a car that has to be fixed - it could be a television or it could be a book! So if a customer comes in and talks to a person who is not trained to deal with the public, the customers feel that the guy they are dealing with doesn't really care a whole lot about their problems - [that's] only because he's fixing cars every day of the week! The worst thing about a mechanic who is not trained to deal with customers is that he tends to be dismissive - if someone comes in with a problem, they want to explain their problem; they don't want you to tell them: "Oh yeah, I know what that is" straightaway and cut them off. They need to explain what their problem is and you need to listen. And although you know from the second they open their mouth what the problem is [!] - you must let them go on and talk about it. And these guys [the mechanics in the workshop] are not used to doing that; they're used to getting instructions to do a, b, c, d and e.*

Based on this conviction a key objective is that all the company's staff are trained to deal with the customer and be aware of the importance of the customer.

That goes for everyone, even part-time staff, no matter what. You only get one chance with the customer.

As a general rule, the motor mechanics in the workshop do not have much direct contact with customers which is a key duty of the service manager or, in his absence, the two foremen. However, if the service manager and both of the foremen were off-site, the motor mechanics would know enough to take it upon themselves to approach the customer rather than keep him or her waiting. The service manager thinks that dealing with customers will become a normal part of the mechanic's work in the near future.

I can see the day coming when there will be less need for the likes of a foreman to have to meet a customer and road-test a car - instead he would send out a mechanic with the customer: to drive the car, to road test it, to diagnose the problem - they [the mechanics] are quite capable of diagnosing a problem but they're not very good at relating to customers. As service manager I shouldn't have to think who I send out to a customer, you know, will that guy say something wrong, will he upset the customer. There certainly is a major, major need to train motor mechanics in customer relations.

It is the firm's policy that every mechanic in the workshop will go on all Nissan training courses. Nissan stagger the courses to ensure that all motor mechanics in their dealer network will attend a course. Most of the courses are one-day but some are two days. The firm has no hesitation in releasing staff even for the two-day courses because they see the benefits of training.

Every new model will have its own training course. Nissan also run specialised training courses in gearboxes, engines, brakes, steering - all components. The one-day courses will provide an overview, while the two-day courses will provide more intensive, in-depth tuition.

The firm also sends its service personnel on training courses other than those organised by Nissan, since some areas are not adequately covered by NISSAN training courses. The service manager illustrates this with a recent investment in new diagnostic equipment.

We've sent two or three of them on training courses [to use the equipment] - the company that did that course are running various courses in specialist areas such as fuel-injection

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systems, power steering and ABS brake systems. We haven't had an opportunity yet to send anybody on those courses but we will. So there's more than just the manufacturers training [courses]: there's the people who manufacture the equipment - they would normally train as well - If we buy a piece of equipment, I buy the training with it.

The service manager believes that his employees' qualifications particularly in the workshop would give them a sufficient grounding to be able to handle the vast majority of cars. He is convinced that the training that they would get as employees of a dealer from the importer such as Nissan or Mercedes would be generally applicable if they were to move to another dealer handling a different manufacturer:

Nothing is unique: even fuel infection systems - they're made either by Bosch or Lucas - operate in a reasonably similar way. So if you can handle one, you can handle them all. The only thing is familiarity; in other words to be familiar with the layout of the car ... if you look under the bonnet of a four-wheel or under the bonnet of a Nissan: they're basically the same except that the engine is in a place, the gearbox is in a place ... it's nearly the same for them all. It's only when you see the likes of the Lexus or even the (Nissan) 300ZX ... you wouldn't be that familiar at looking at them - it's only a familiarity problem.

Keeping up-to-date is only partly a question of attending courses. There is also a wide range of continuing vocational training taking place through work experience. Learning, for example, by using handbooks/manuals occurs regularly within the company and two of the four staff members would like to see this method of learning used more often.

To a certain extent the types of learning methods favoured are related to the mechanic's skills level and - this is of course related - the position in the organisation. The new apprentice states that her preferred methods of learning were through working with more experienced personnel. The workshop foreman, on the other hand, indicates that learning by asking for help or advice from suppliers was a good method of learning. The foreman also believes that learning by regular rotation of tasks and also by doing non-routine tasks are good methods by which skills could be kept up-to-date and should be used more often.

Case 8: The DAEWOO dealership: from low-tech to high-tech cars

The owner started this firm in 1967 as an independent car-repair workshop. Four years later in 1971 he obtained the LADA franchise. The firm has changed its premises several times. Most of the time the firm had more than one workshop and also more than one franchise. Alongside the LADA franchise the firm for some time had the franchise of Alfa Romeo (lost in 1986), SEAT (lost in 1995) and SUBARU (lost in 1995).

The position of LADA in the Dutch car market has deteriorated in the last 10 years due to a combination of circumstances: the political and economic developments in Russia, the technological characteristics of LADA cars and the changes in sales patterns of Dutch customers.

I asked the representatives of the LADA importer if it would be all right with them if I were to combine the LADA franchise with another franchise. So we visited the Daewoo importer's presentation, my whole family was present. Everyone was convinced that we should take that dealership. We also discussed it with the personnel: they said .. anything would be *better than Lada... I did not exactly agree with that because Lada is the basis on which we had built our enterprise. So everyone wanted to start with Daewoo.*

In 1995 the firm gained the Daewoo franchise and is trying very hard to make a success of it. For this enterprise the transition from the Lada dealership to the Subaru and especially the Daewoo dealership meant a very big step because of the 'old-fashioned' technology and quality of the Lada cars. This change into modern technology and higher quality also meant a change to a more demanding type of customer. Moreover, the Daewoo importer demands high standards not only in the premises but also in the sales process and in particular in after-sales service. Daewoo is striving for 100% customer satisfaction.

In the last few years the children of the owner have been entering the enterprise and are gradually participating more and more in entrepreneurial and managerial decisions and activities. A process of transition is therefore taking place in the firm in the activities of the workshop (from low-tech to high-tech cars) and in the management of the firm (from the founder to his children).

As can be expected, the transition from servicing low-tech LADA cars to high-tech SUBARU and DAEWOO cars did have consequences for the people in the workshop. We will briefly describe the old LADA situation and the new DAEWOO situation (see also Figure 2.6).

1. The LADA situation

In this period the organisation of the workshop was characterised by a very traditional and hierarchical structure. There was a workshop foreman assisted by 2 or 3 apprentices. These apprentices provided the workshop with cheap labour. The work was organised top-down. Incoming jobs were accepted and scheduled by the owner or the foreman. The foreman divided the work among the apprentices taking into account the existing differences in level of education (primary or secondary apprenticeship) and corresponding work experience. The apprentices mostly left the firm after being certificated motor mechanics because they found other jobs or because they had to fulfil military service. In these cases new apprentices entered the firm. Very often the foreman was too busy to instruct, guide and check the apprentices in a proper way and this resulted in a rather low level of after-sales service quality.

In the past a customer did not know much about a car. And in particular the LADA drivers were not very demanding customers. But after we acquired the SUBARU franchise another type of customer came into our firm. And here we seriously got into problems. At one time out of ten serviced cars at least three were returned to the workshop by dissatisfied customers. If you want to survive in this sector it is essential that you take care of customer retention. If you are not capable of offering that level of after-sales services you had better close your firm straightaway.

Figure 2.6 - Changes in the firm as a consequence of the process of transition from a low-tech make (LADA) to a high-tech car (DAEWOO)

		Situation for LADA franchise	**Situation for DAEWOO franchise**
a	Kind of car	low-tech	high-tech
b	Content of repair and service activities	mechanical	mechanical and electronic
c	Type of customers	less-demanding	more-demanding
d	Workforce in workshop	foreman + 3 apprentices	3 skilled motor mechanics
e	Organisation of work	according to traditional hierarchical model; foreman is responsible	more according to a team model; every mechanic is responsible for the jobs done by him
f	Contacts with customers (reception and initial diagnosis)	owner and foreman	mostly done by owner or most experienced mechanic ('primus inter pares'), but also on a regular basis by the other mechanics

2. The DAEWOO situation

The survival of the enterprise was in danger, and for this reason the owner tried very hard to improve the level of the after-sales service.

This proved to be an almost never-ending story. I talked and talked with my people but they let me talk. It didn't work out. At the same time the enterprise became more dependent on the workshop because sales were diminishing. So I started to deal with the complaints of customers by myself. But the problem was with the apprentices; without proper guidance they could not carry out the service activities according to the higher standards. So I had to decide to change the internal organisation. If I didn't do that it would go totally wrong.

In fact two events caused the abandonment of the traditional model of work organisation. The first and most important was the corresponding low level of after-sales service. The second was the fact that the foreman became ill partly due to the malfunctioning of the workshop. To improve this critical situation the owner decided to replace the apprentices with skilled motor mechanics. At present there are three senior motor mechanics in the workshop, that means qualified and experienced motor mechanics. These changes have clearly improved the quality of service as well as the flexibility of the workshop and the training and learning practice.

a. Training and learning

In the LADA situation most of the service activities in the workshop were performed by apprentices. The purpose of the apprentice system is to give young people the opportunity to qualify themselves for a large part in day-to-day work practice. But in reality this is not always the case.

In the past the apprentices mostly got the tiresome tasks and they got a little help but mostly this was not that much. Good attention is only given in companies where things are well *organised. In small companies there is mostly not enough time and people don't have enough patience to do it properly.*

In the current DAEWOO situation things have changed completely. This importer offers many different training courses and the firm participates in all the training offered. Although the entrepreneur every now and then is sceptical about the effects of certain training, at least one member of the staff participates in every training course. His children are particularly in favour of this policy. The entrepreneur himself does not participate but everyone who has been on a training course has to report to him and his colleagues so that others can benefit from this training.

Everybody gets this knowledge of new techniques because I send everyone in turn on a course held by the importer. The importer organises those courses. One might decide not to join them but at some time they will probably say 'no' to you too. My daughters prefer this so I adapt myself to it even if I don't always see what the benefits will be for ourselves. I myself don't participate in this courses. I get a report afterwards and I pick things up from this if there is something worthwhile. Yes, if they have attended a course I always want to know what they have done. If they are not able to give this information properly I send someone else next time. Then it is very important that this knowledge penetrates the rest of the firm. Besides this as boss you have to show that you are interested. And you are investing in it so you have to see something back from it. How does that work? In practise it works very well. For example when a new system is introduced. This starts from the importer with a technical report, so we first get a technical description on paper. Normally a form is enclosed so that we can register our people for a course with the importer. Then the question arises as to who will go, one or two persons but there is always someone who goes. The person who has been there always tells after the course what he has seen and learnt. When a first job concerning this new system is coming he will do it but the next time someone else will do it and he will be helped by the first one. ......Yes that is a problem: often there is not enough time to learn from each other. Learning in the daily work situation `is nothing new for us'. It just happens by itself ... but often there is not enough time to learn from each other ... Yes, that is a problem.

The motor mechanics agree with this last remark. They confirm that the daily work offers them a lot of learning possibilities but that most of these opportunities are not utilised to their full extent. According to them this is particularly the case with the following learning opportunities:

- learning by regular rotation of tasks by which one can keep skills up-to-date
- learning by solving problems together with colleagues
- learning by explanation from experts/experienced people
- learning by direct employee participation
- learning from complaints of customers
- learning by involvement in management, planning, etc.
- learning by installing technical modifications on existing cars.

In fact the motor mechanics signal that the potential of team-based work organisation are not fully utilised. The owner agrees with the motor mechanics, but at the same time he mentions that it is very difficult to find the proper balance between the short-term requirement of making enough profit and the long-term requirement of keeping the skills of the mechanics up-to-date.

b. Tension between skills, labour costs and fixed maintenance schemes

Importers and their connected dealers have to compete increasingly with service because customers are educated nowadays. They know there is no such thing as a bad car. People select cars because of the extras and the price-quality relationship of the after-sales service. This has the effect that the car producers become interested increasingly not only in the quality but also in the costs of the after-sales services. Not only are the profits on car sales diminishing but the after-sales services are also increasingly fixed in maintenance schemes, fixing periods as well as prices. The consequence of this is that motor mechanics not only must have the knowledge to do a job properly but that they also must be able to do the job quickly. This implies that some specialisation is necessary to meet the tight maintenance schemes. Another consequences is that the labour costs of skilled motor mechanics are becoming more and more of a problem in case of the more routine activities. And this is why the entrepreneur is thinking of employing one or more apprentices again.

So we start again with apprentices but one cannot let an apprentice handle all sort of things on his own. Electronics are for example becoming very important and you cannot let an apprentice deal with that. If you are not properly trained for that you are taking great risks. Besides the customers and the importer wouldn't accept such a way of working. With Lada this was totally different. That was a highly mechanical car that often had mechanical problems. The new modern cars are better and high-tech so the qualifications needed have changed. The new apprentice will be coached much better then in the past. Coaching is a form of leadership, not hierarchical, but much more in consultation, ... So we will have to change the way in which we will work with apprentices in the future. We will attach one apprentice to one master. Nowadays two apprentices cannot be put with one master.

In fact the growing influence of the car manufactures and car distributors on the price strategy of the dealer firms and consequently on the organisation of work in these firms and on the learning by doing opportunities are reported by more owners of franchised firms. We already mentioned such a complaint in case 1 (the Spanish Lucas & Bosch dealership) and we will present some additional illustrations of this further on.

2.3 Authorised workshops

In our sample of 21 car firms there are three authorised workshops. In all three workshops the entrepreneurs explicitly mention that they feel strong pressure to improve the labour productivity. However, the backgrounds are quite different.

Figure 2.7 - Characteristics of three authorised workshops

		case 9	**case 10**	**case 11**
1	Country	Gr.	Ire.	Gr.
2a	Firm has existed since	1973	1984	1932
b.	Firm is authorised since	1993 (KIA-motors)	1984 (Peugeot)	? (Rover)
3a	Workforce at start	?	4	?
b	Workforce now	5	8	15
4.	Relevant transition processes	• son has taken over firm in 1984 • transition of non-franchised to authorised KIA-workshop in 1993	• 4 sons took over firm in early 1990's • transition from family firm to business	• son has taken over firm • dependency of car manufacturer is increasingly felt to be a problem
5.	Arguments for transition processes	• entrepreneur expects that KIA Motors will increasingly its market share substantially • he sees good opportunities to expand his workshop and to develop his firm to an integrated (sales and repair) KIA dealership	• health situation of the founder • changing personal circumstances of the sons (getting married and families to support) • addition of car sales department	• costs of keeping technologically up-to-date are threatening the profitability of repair business because car manufacturers are (becoming) too powerful
6.	Consequences for staff and organisation of work in workshop	• owner is doing reception of cars and customer relations • car electrician does electrical work • no specialisation of tasks between the mechanics	• more business-like approach (more commercial thinking and working) • more outside staff (receptionist and apprentice mechanic)	• 2 specialists (electrical jobs/ diagnosis unit) • 6 mechanics, some specialisation according to different Rover models • 2 apprentices
7.	Consequences for training and learning	• entrepreneur is convinced of benefits of training • entrepreneur stimulates incidental learning.	• access to Peugeot training supply; the brothers participate in courses in rotation and transfer new knowledge to the others • work organisation (specialisation) limits the possibilities of learning by doing	• entrepreneur is convinced that training improves productivity • much participation in distributor training, but major differences according to specialisation of mechanics, ability to transfer new knowledge and overall performance • balanced combination of distributor training and incidental learning

Until some years ago the Irish Peugeot workshop was run by the entrepreneur and his unmarried sons. Because the sons had no families to support, their wages could be kept low. The wages that sustained them as single people were not sufficient for married men with families to support. This is why they were forced to adapt a more business-like approach with consequences for the organisation of work in the firm as well as for the training and learning behaviour, as we will point out.

In the two Greek authorised workshops the pressure to increase labour productivity comes from the car manufacturer, trying to keep the repair and maintenance costs as low as possible. In the eyes of the car manufacturers this objective is most likely to be attained by a specialised (strong division of labour) and well-trained workshop staff. The entrepreneurs in the two workshops share the car manufacturer's views on the importance of training, but they have their own ideas about the model of work organisation that is best for their firms. For instance, the entrepreneur in the KIA workshop (case 9) has little doubt that the size of his firm and the necessary flexibility in his 5-person workshop clearly limits the possibilities for specialisation. Although he knows the official time standards of the KIA importer for all kinds of repair jobs, he is in no doubt that there is no justification in applying these standards to his people, because he is aware that these standards may only be applied to technicians who are totally specialised. Nevertheless he is very happy with the fact that his firm was converted to an authorised KIA workshop a couple of years ago, because he is convinced that this gives his firm excellent growth prospects. This expectation is not only based on the market prospects for the KIA cars, but also on the support the KIA distributor is giving to the authorised KIA workshop with regard to the updating of equipment and staff.

The entrepreneur in the authorised ROVER workshop is less satisfied with the support he receives from his distributor. He is afraid that car manufacturers are becoming too powerful. He regrets the policy of car manufacturers to eliminate the non-franchised workshops because in his eyes they serve as a necessary counterweight.

In the following we will present the three firms separately.

Case 9: The KIA workshop: from independent to authorised workshop

This company is a general motor-vehicle (excluding bodywork) repair shop for KIA MOTORS passenger cars. The workshop was established in 1973 as a dealership of ROVER by the entrepreneur's father who was until then a chief engineer in ROVER. In 1984 it changed its legal form as the son became manager; he is a civil engineer with a license to pursue the occupation of automotive engineer. It turned into an independent car repair shop (but worked mainly with ROVER cars) for a five-year period beginning in 1988 and finally took its present form in 1993, when it was converted into a KIA MOTORS authorised repair workshop, which belongs to the network of the Greek importer-distributor.

The number of personnel in the workshop was not always the same. From a number of six in 1990 and 1991, it declined to 4 (the father and son and two of the present mechanics) to increase to its current number of 5 since 1994 when a electrician joined the enterprise.

Since the new management a lot of changes occurred in this firm. The most important changes are the modernisation of the workshop and in association with this the development of a new personnel and training policy.

Modern technology has been imported from the very first steps of the KIA MOTORS dealership, and computerised data bases for customers, car parts, car repair files and accounting system have existed for many years and are continuously upgraded. The database with the short description of each car repair helps to keep track of each vehicle but also to promote the modern image of the workshop. A diagnostic control unit has also existed since the beginning of the cooperation with KIA MOTORS.

The main drawback of this modernisation is that only the owner has the ability and the knowledge to cope with this modern equipment and this already leads to under-utilisation of the capabilities of the modern equipment that the workshop possesses. The entrepreneur demonstrates this with the following two examples.

We now have one of the most sophisticated software packages for our accounting system. It has cost us a lot, but it is now only utilised to 30% since I don't have the time necessary to learn all of its tricks, and there is no one else here who knows anything about computers. I am trying to improve that, but it takes time.

The mechanics cannot operate the diagnostic control unit themselves with adequate comfort yet. When the manual of the car is in English, as can happen for some models, they cannot use the diagnostic unit for the vehicle concerned, as they cannot speak English. The same happens with the computer; these particular mechanics have been working since the age of 12 but they have never dealt with electronics. When they saw the diagnostic control unit for the first time, they were driven crazy! This unit is one of the latest models, with the ability even to give voice instructions! They could not imagine that such a machine can exist. But now they are becoming more and more familiar with it. We often discuss its features and abilities during the lunch break.

The mechanics agree with the entrepreneur. In the questionnaire they both mention that they should welcome more time for learning by practising with new equipment/tools. All three employees - the two mechanics and the electrician - confirm that the entrepreneur is spending less time than they think is necessary to teach them new things by demonstrating his skills and transferring his knowledge (see Figure 2.8).

It is important that his mechanics get used to modern technology such as computers not only because they already have to work with highly sophisticated diagnosis equipment but also because the entrepreneur had ideas about using modern technology as a training device in the near future. He thinks that another way of training that can prove both very successful and popular for the staff of his workshop would be the use of specialised computer programs, not in the workshop but at home.

It is difficult for the workers, after 10 hours of daily work, to be trained via the computer. This can be done easily in their house in the afternoon or during the weekend, and I think that I am going to buy such training software and put such an idea into practice in the near future. I have evidence that this would be of great interest to them.

Since the workshop is a real micro, tasks are performed in the traditional all-round model. There is no specialisation of tasks, since everyone does any repair, except from the electrician who is responsible for the electrical works of the cars. Normally, the mechanics do not participate in the management of the firm, because these tasks are performed by the owner. Both mechanics regret this because they should welcome the learning opportunities from being more involved in the management tasks (see Figure 2.8). The reception of the cars is also performed by the owner on a regular basis.

The mechanics talk to the customers but they do not want to take the responsibility. They need authorisation or instructions for action from me. When one of the technicians performs the reception during my absence, then when I arrive he addresses me by my first name in front of the customer, in order to create a friendly atmosphere. I believe this helps. There is no training on how the technicians should perform the reception of the cars. I simply encourage them to observe me in order for them to learn from my behaviour. I try to teach them not to voice any complains in the presence of the customer, but to voice it to me later.

As Figure 2.8 shows, only the electrician would like to be more involved in the reception of cars because he thinks he could learn a great deal from the experiences and complaints of customers.

The above quote shows that the entrepreneur likes to create a friendly atmosphere in his firm. His father clearly had a different style in dealing with employees.

Friendly cooperation is a good thing. I believe in humanity. I consider the people in my workshop to be my only real friends, because I spend 10 hours every day with them. What is really important is that everyone in this place is able to express his problems and worries. They had the opportunities to cheat me, but they never did...

My father used harsh discipline and demanded obedience without second thoughts. He was following a military approach to command. I have a different character from my father, so I am following a different path. I believe that you must use arguments, you must convince the employee that your opinion is right, you have - one way or another - to gain his respect.

There are signs that the entrepreneur is in favour of open and fair treatment of his employees. More than anywhere else perhaps this can be noticed in the way he evaluates the performance of his employees. He does so on the basis of his own experience because he does not trust the official standards of the importers, since *...these are based on the time that extremely specialised personnel need to perform their speciality and this means that these standards may not be applied to technicians who are not totally specialised but who can work on all of the sub-systems of a car.*

The owner strongly believes that without training it is not possible to keep up with the evolution in such a fast-moving environment. Training increases the ability in problem-solving. He has, therefore, insisted from the beginning of his entrepreneurship on correct training for himself and his employees.

If you are not sufficiently trained, you are unable to follow not only developments but even your work. Training gives you the opportunity to solve any specific problem that might arise in your job.

The owner pays a great deal of attention to the dealer training. He himself has already participated in four courses of KIA MOTORS. He always tries to take one of the other mechanics of the workshop with him, and it is not surprising that all of his employees have attended at least two courses held by the dealer.

If I had not taken the technicians with me, they would believe that I don't want to promote them and they might have taken it all wrong. I believe that there must be no secrets in training and that you should know as much as possible so that you can perform to your best.

In particular the electrician has spent a great deal of time on courses on injection, ignition and car alarms. He followed these courses partly in his own time. The two mechanics followed less dealer training but they did this entirely in their own time.

The entrepreneur is very convinced of the importance of continuing vocational training, not only of the importance of dealer training but also of various methods of incidental learning.

The most important thing is the desire for constant personal improvement. If the worker does not believe in the necessity of training then no kind of formal or informal training has any effect on him. Then, getting in touch with the subject of the work is the most important. This comprises of seminars on new technology, importer-distributor training of one or more of the mechanics on a certain new model and, finally, training on the actual car itself within the workshop. Team training is the third most important component of learning. All the rest (i.e. manuals, books etc.) play only supplementary role in the effort to improve and maintain a good level of services in the work.

From the very beginning of the dealership, in 1993, the owner has insisted on and finally succeeded in bringing a KIA car from the importer into the workshop. The whole workshop 'worked' on the case as a team. Everyone participated in the training and was urged to make remarks and to ask questions. Everyone was trained on every subject on the car, except the electrician who focused on the electronics and electrical parts of the car. The rest focused on every subject, even the electronics (as far as they could understand this).

Figure 2.8 - Methods of incidental learning that should be used more (x)

		two mechanics	**electrician**
Methods			
1	learning by practising with new equipment/tools	x	
2	learning by doing non-routine repairs	x	
3	learning by excursions/visits to fairs	x	
4	learning by involvement in management	x	
5	learning by direct employee participation	x	x
6	learning by new things under the responsibility or through helping of the chef/experienced mechanic	x	x
7	learning by solving problems together	x	x
8	learning by asking help/advice from supplier	x	x
10	learning by doing work with a growing degree of difficulty		x
11	learning by asking help/advice from experts in another garage or specialised firm		x
12	learning from experiences/complaints of customers		x

The training took place when the workshop was closed (afternoons and evenings, Saturdays and Sundays). The owner and the employees did so on their own, with help only from the manuals. The mechanics appreciated and enjoyed the training. As Figure 2.8 shows, all three technicians would welcome having more possibilities for learning by solving problems together and they also express very clearly their appreciation of the learning support of the owner and other experienced people. They would like to benefit from these experienced people more often.

The owner intends to repeat this experiment as soon as possible ... *"There is nothing that can replace training on a real car."*

After the benefits that all of the personnel have obtained from such training, it is now common for them to spend some time after working hours studying manuals, working on cars for training reasons, even working on Saturdays. The owner supports this form of training and encourages such efforts, either by providing extra payment for this out-of-hours training or with other bonuses, e.g. buying them lunch. Sometimes, he makes the participation of an employee in the dealer's seminars seem like a bonus.

Another way of training which has appeared only recently is through the special work teams of the importer. This team goes from one authorised workshop to another asking questions, solving problems and giving answers especially about the latest models. The importer has recently introduced another source of information: sending instructive letters about problems that have been reported by one or more workshops.

It is evident that the new entrepreneur from the moment he took over the firm from his father realised that technology and continuing vocational training play a fundamental role in the operation and growth of any modern workshop.

It is the detail that differentiates the good workshop from the others. Everyone can replace the door of a car, but only a few can make that door work properly. You gain the customer from such details.

It is also evident that this entrepreneur has a strategy of attracting more new customers to his firm because he not only has plans to expand the activities of his present workshop, but also has plans to create a network of integral sales-repair workshops by bringing in a body repair workshop and by opening a car sales showroom within the region of his present workshop.

Case 10: The authorised Peugeot workshop: transition from family firm to business

This workshop is the only garage in Ireland that is approved by Peugeot to handle repairs but not sales; all of the other Peugeot dealers handle both service and sales. This exceptional position clearly has to do with the backgrounds of the entrepreneur. The company came into being in 1984 when the entrepreneur opted to take redundancy when the branch of the Peugeot dealership, owned by the Irish importers of Peugeot, in which he was service manager closed down and he did not take up his employer's offer to transfer to another garage in the group.

Despite the garage's off-the-beaten-track location, attracting customers was not a difficult process. A lot of customers from the Peugeot dealership where he was a service manager simply transferred their business over to him. As one of his sons comments.

There wasn't a problem as far as clientele were concerned: basically, he set up overnight and he was able to make a living on it.

When he started his business the entrepreneur employed two of his sons, one was already a qualified motor mechanic and the second was an apprentice motor mechanic. Two more sons joined the business in 1985 as apprentice motor mechanics and a fifth son started as an apprentice in 1990. One of the sons left the family firm in 1987 to set up his own garage.

The most important developments since the establishment of the garage in 1984 have been the development of the used-car business by one of the sons (we shall call him Tom) and also the transfer of the day-to-day running of the business from the father to the sons. Both developments took place in the early 1990s

Tom, who is a trained motor mechanic (he served his apprenticeship in the business), is now in charge of car sales. Even when he worked as a mechanic he was the person who handled the small number of car sales the garage made ("*the rest of the lads just weren't interested*"). Eventually, he found that it was not possible to be both a mechanic and car salesman at the same time and, losing his appetite for the repair side of the business, decided to go full-time into car sales.

I began not to enjoy it...I could see myself doing it (car repair) for the rest of my life If I kept it up... not that I am not young still (laughs) but... I just didn't like the idea of how long I could be in it without going anywhere.

The second major development has been the transfer of the running of the business from the entrepreneur to his four sons. This was necessitated because the founder had a heart by-pass operation in 1989 and also because of their own changing personal circumstances: the sons needed to generate a higher income from the business. The wages that sustained them as single people were not sufficient for married men with families to support. The discovery that the business was not operating profitably enough to meet these new demands was a spur for the younger generation to take over the management of the business.

A financial controller was consulted and following his recommendations the brothers realised that if they were all to make a living from the garage they would have to apply commercial thinking to decisions in the future. For example, if a repair job took five hours but was only costed for three, what was the problem and why did it take longer? The brothers gradually assumed the responsibility for running the business and as a consequence became more cost and revenue-conscious.

The decision by Tom to enlarge the business with the used-car business had several advantages for the firms. Not only does the sales side of the business generate work for the workshop in terms of preparing cars for sale but many of Tom's customers will generally return to the garage to have their cars serviced or repaired and so represent a new stream of business. More importantly for the business, Tom has more spare time then his brothers in the repair shop. This means he has time to do more forward planning for the business, and because he is no longer involved in the repair side of the business he can also provide an "outsider's perspective" in terms of its profitability. He has introduced new ways of doing business which are different from his father's. As Tom comments:

(About three to four years ago) it came to the situation where nobody was really taking the reins of running the business or trying to make money. We the (four) lads took it on ourselves to try and improve the whole situation as far as the workshop floor (was concerned): how many hours were being operated per day per mechanic; and if we are only operating x amount why are we doing that amount - and can we improve on it?

To be able to maximise the total number of operating hours available in the workshop they employed a receptionist. His appointment became necessary when the brothers found that they were spending too much time on the phone with customers or ordering and collecting spare parts and not enough time generating income by repairing cars. Furthermore they employed an apprentice to assist them and to do minor jobs on his own. It is clear that the brothers have adopted a more business-like approach. They have set themselves productivity targets and keep records on the amount of time each repair/service job takes. The brothers meet on a weekly basis to discuss business and to review targets.

There are weekly meetings...the bottom line is that if you don't reach your targets for that week then you have to review the following week to make up for the previous week.

The two non-family employees were hired to give the brothers more time generating income by repairing cars. There is also a commercial aspect to the division of skills among the brothers in the workshop. The brothers while they have a general motor mechanic training have specialised in different areas. It should be noted, however, that it is not that they have specialist training but rather because they do more repairs on a certain type of car or certain type of engine that they can do these repairs more efficiently. In terms of the allocation of work the father observes:

They're all equal in their knowledge so it shouldn't really matter (who does what) ... take a Mercedes for example, if John did the last one ... he'd do it quicker than the one that never did it.

This point is echoed by Tom:

There's no point in everybody being "all-rounders" because nobody is fast at doing (all) jobs...the lads (the brothers in the workshop) tend to specialise in different areas...It's not that the others can't do them - its just that they wouldn't be as quick. So basically you have to go after the things you usually do... to make money. The number one (rule) is to save time and money. For some reason, (the system) seems to work reasonably well...it's not that there's a situation every morning where one guy will say: "I'm not going to do that!" - and nobody gets to do it!.. It's just that there'll be a few jobs that one of the lads will have to do; there'll be other jobs the other guy will have to do...and the lad remaining will have to do the job (that has just come in).

This does not imply that if one brother does Peugeot 205s that no other brother can do this model; all brothers are equally competent in terms of their training and knowledge.

It is just that one brother may know the `ins and outs' of the Peugeot 205 better than anybody else. If that brother is out or on holidays it does not mean that the garage cannot take in any 205s for repair. It is not unusual for garages to have motor mechanics who will specialise in certain models or in certain areas such as gearboxes while there will be other mechanics who handle routine service/repair work.

As can be expected this model of work organisation limits the possibilities of learning by doing. In particular the two youngest brothers, aged 25 and 29, would like to have more opportunities for learning on the job. They prefer both to have more opportunities for

- learning by doing work with a growing degree of difficulty
- learning by regular rotation of tasks by which one can keep his skills up-to-date
- learning by doing non-routine repairs
- learning from experiences/complaints of customers
- learning by practising with new equipment/tools
- learning by solving problems on one's own
- learning by using handbooks, manuals
- learning by self study-material
- learning new things under the responsibility of or by explanation from an experienced mechanic.

Since the premises are small and the brothers are in constant contact with each other: the early morning meeting, coffee breaks, lunch, etc., they all agree that they have enough opportunities for learning by discussing and solving (common) problems. As the father observes:

It's in their interest to share information because this will help problems be solved quicker.

As it is a family firm there is perhaps a lack of jostling for positions that might be the case in other garages. As Tom notes:

They (the brothers in the workshop) have long gone past the stage where they are competing with each other on the workshop floor as to who knows what - it's not the point any more - we're out to make money.

The importer of Peugeot cars provides extensive back-up to their dealer network in terms of training and technical support at their training facility in Dublin. Since the garage is both busy and short of numbers, only one of the brothers will go on a course at a time. However, since the courses are repeated the other brothers could have the opportunity to attend the course at a later date. The normal situation, however, is that one of the brothers will attend the Peugeot course and then on his return will brief the others on what he has learnt. Since notes are usually provided on the courses he and the others can refer to these at a later date. If the course has been about a new model, it is likely that the brother who has been on the course will repair that model when a customer books it in for a repair/service. The brothers try to rotate which of them will attend the Peugeot training courses.

It is evident that the model of work organisation not only strongly influences the possibilities of learning by doing but also the participation in courses offered by the Peugeot importer. One of the brothers working in the workshop adds the following remark in the questionnaire.

I have not attended any courses outside of those given by our supplier Peugeot but have often thought of attending courses to keep up with fast-changing technology i.e. electronics, ABS (braking systems), engine management, etc.

Tom, the commercial salesman, does not agree.

I believe that the current level of training undertaken by my brothers is sufficient for the moment ... why should they want to become a 'professional student' at the risk of the business [i.e. time taken in training off the job]?

An important reason is that Tom does not sell new Peugeot cars. So, the other garages in the Peugeot dealer network are the first to encounter problems with new cars. Therefore, by the time a new model is booked into this firm for the first time, the faults associated with it would have been made known to Peugeot Ireland by the other Peugeot dealers. Peugeot Ireland's senior technical manager would normally research any such faults and would circulate a bulletin with his findings to all the dealers in the Peugeot network. These bulletins are usually very comprehensive and are sufficient to answer most queries the brothers might have.

Case 11: The authorised ROVER workshop: becoming dependent on the car manufacturer

This company is a general motor-vehicle (excluding bodywork) repair shop for ROVER passenger cars. The workshop was established in 1932 by the father of the present owner and has always repaired passenger cars of British origin (Morris, Austin, British Leyland, Austin-Rover). Now it belongs to the network of the Greek importer-distributor of ROVER cars.

The owner has always tried to follow the technological progression of vehicles. The workshop has always been equipped with modern machinery, and is currently fully computerised. There is a full database of all vehicle repairs since 1989, and continuous revamping of the equipment occurs.

In the next few days our new straightening unit will arrive (the fifth in a row). We have also twice changed the suspension's control unit, three times the brake measuring unit and so on. As car technology evolves we have to evolve with it. It is the car itself that demands these changes. Our diagnostic unit has changed six times so far and I dare say that it has always expanded with new modules, i.e. it keeps expanding constantly. Unfortunately, from a particular point on, repair business becomes non-profitable, because investment costs are extremely high.

The supplier of specialised equipment and tools is the car manufacturer, who is always monitoring the technological standards of the workshops of his network. The manufacturer sells this equipment at a good price, but as it is difficult to find such specialised equipment elsewhere in the free market there is no option other than to buy from the manufacturer.

The manufacturer also plays a decisive role in the competition between authorised and independent workshops.

There is no competition between franchised and independent workshops. This is because the manufacturers have managed to keep their vehicles within their network, at least up to a certain age. For instance, in ROVER, with the 6-year warranty against corrosion, no vehicle leaves the network before that. This is not generalised, since, due to the high cost, there are always customers who leave for independent workshops. But that is the exception.

It is the opinion of this entrepreneur that real micros - and especially the independent ones - are shrinking and medium franchised micros are becoming larger. He is clearly not very happy with such a development.

We are facing an era of transition towards large, integrated franchised workshops. Within the next decade, only such enterprises will survive. They are going to have both a repair workshop and will also sell spare parts and even cars. Independent workshops will vanish. It is a mistake and I greatly regret it, because they are serving as a counterweight, but it will happen.

There are 15 people working in the firm, of which there are 11 in the workshop: a chief mechanic (responsible for the supervision and the reception of the cars) 8 mechanics and 2 apprentices. Among the 8 mechanics there is one electrician (responsible for the electrical and electronic systems) and one specialist responsible for the handling of the diagnosis unit. One of the reasons for making one of the mechanics responsible for the diagnosis unit is that this equipment has English instructions and dialogue boxes, so it is not possible for all the mechanics to work with it.

There are six simultaneous repair lines. Each of the six mechanics is responsible for one of these lines and the chief mechanic has the overall supervision. Among the group of six mechanics there is some internal specialisation of jobs according to different ROVER models. The two apprentices work under the supervision of all the mechanics, doing all mechanical works.

We pay special attention to electronics, because they are more difficult than mechanical parts and more than before. Today the workshop has changed in function. The mechanic is tending to become a simple replacer and not the man who makes the diagnosis and the repair. In the past, the mechanic would do the diagnosis. Today, the specialist with the electronic diagnosis unit does. The traditional electrician is not qualified to check the ECU. That can only be done by a specialist.

The owner believes that work of good quality is better achieved when only one man is responsible for each car. He does not believe that the team-model of work has more benefits than the traditional all-round model.

Each mechanic takes over any repair work along with an assistant. It is rare for two mechanics to work together on a car (traditional all-round model). The team model might be applicable in the workshop, but has two main drawbacks, the lower quality of the work done and the necessity for more people and larger premises. I think that such a model is more suitable for large workshops with larger production and not in our case.

The previously described way of operation of the workshop has been followed for many years and according to the entrepreneur is perfectly effective. The only problem he notices is that they cannot make a strict time schedule of the work in the workshop, but this seems to be a problem of the repair sector in general, because the exact repair time cannot be easily estimated.

You cannot estimate the real cost of repair work this way. It is in the mentality of Greeks. If you say to the customer that it has taken three hours for you to discover that the damage was in a tiny cable of trivial value, it is impossible to make him pay for your real time. The Greek customer pays for the spare part and not the repair time. Such costs are not understandable to and covered by the customer and, thus, increase the operating costs of the workshop. If such costs did not exist, the workshop would have been a profitable enterprise, now it is just a job. I have asked for the factory's help many times in order to achieve a reduction in diagnosis costs. The answer that I get is that if we cannot find what the problem is, we should change all the components that might have caused the damage. But you cannot say this to your customer and you cannot charge him for something like that. How is it possible to tell the customer he has to pay so much money for the ECU just because you suspect it is defective? You have to know for sure that something is damaged in order to replace it.

The main concern of the owner in recruiting personnel is the technical education and background of the technician, his former experience, his age and his ambitions for a successful career. He prefers young but educated people, who have just fulfilled their military obligations, because they have better professional development. However, he is facing difficulties in recruiting people with the qualifications he wants.

There is neither specialised nor educated personnel. Until a few years ago, working on cars was a simple but dirty job, there was no one interested in becoming a car technician. This is why the repair workshops do not have as many people of good initial technical education as they could have. Today when the workshop has become a delicate job, there are not enough qualified people in the market and all vocational training schools have not yet responded to the knowledge according to new technologies which they should provide. You can always find people but not sufficiently educated people. This is why we are looking for people who have a good background, i.e. have finished at least a technical vocational school, and we train them inside the workshop.

The owner believes that without training one cannot keep up with the changing environment.

There are a lot of special problems, because the car technology is constantly being improved. The main development is in electronics. For example, the ECU unit in the 200/400 ROVER series has been upgraded 9 times during the last 6 years. And this was because *mono-jetronic turned into multi-jetronic, an alarm and an immobiliser unit were added as standard equipment and so on. There are also 5 different generations of ABS systems. This means intensive and constant need for vocational training and specialisation, because you always face things that you have not faced before.*

According to the entrepreneur training results in increasing ability in resolving problems, increases the self-confidence of the employee and thus the productivity of the workshop.

When a worker faces something he has never seen before, he has not been trained for, he will stop. Then we have a problem and do not know what to do, we search the literature, we look for symptoms and facts. But if the worker knows the problem, he will repair it fast and this can save us time.

Importer-distributor training is the most important source of organised training in the workshop. It is so important for the workshop that it has become part of the routine of the job, something that is natural to happen.

Once or twice a month, one or two of the technicians go for some 3 or 4 days to the premises of the importer for training. They receive all the relevant books, notes, manuals, video tapes from the seminar and bring them to the workshop, where they pass on their knowledge to the rest of the staff. This material is sufficient and very useful.

Nevertheless, training is not provided to all of the workers in the same manner. There are certain criteria for the choice of those who will attend the seminars. First of all, there is an internal specialisation of jobs according to the model of the vehicle. This specialisation is transferred to the training programs. Another criterion is the experience of the worker and, mainly, his ability to transfer the knowledge he will obtain from the seminars. This is mainly the practice when the subject of the seminar is new to the workshop (e.g. training for a new model, new device, new software). Another criterion is the overall performance of the worker, i.e. the more competent and active have more training. For subjects relating to car electronics, the electrician is always among those who attend the seminar.

Training takes place on the premises of the importer, during working hours. The owner thinks that it is very difficult for a worker who is mentally and physically tired to follow any courses after the daily work.

In the past, there was a trainer from the importer who came here for the courses. This cannot happen today, partly because there are too many franchised workshops, but mainly because in that case we would suspend our activities during the courses, which is totally out of the question. Now, when one of us attends the seminars of the importer, he can transfer his knowledge either through working with others or by training the others during the work breaks.

This already shows that in this firm formal training is combined with informal learning: knowledge obtained through courses is passed on among the mechanics partly through incidental learning procedures. This can easily be illustrated by what happens when a new ROVER model is launched. The acquaintance with new models of cars, prior to their appearance in the market is very important. Typically, three months prior to the appearance of a model, the first seminar on the model is attended, then the mechanics that were trained show and transfer to the rest their knowledge through a car of that model which is usually provided by the importer prior to its appearance in the market, and finally on the customers' cars many times, even if they have to work overtime. The manuals of the car only have a supplementary role during this procedure and can rarely replace the time spent on the car.

Other popular methods of incidental learning are rotation of tasks, doing work with an increasing degree of difficulty, doing non-routine repairs and practising with new equipment and tools. The entrepreneur encourages his employees to take advantage of the learning opportunities, in particular the learning opportunities that are available in the workshop ...

I never stop someone who has the will to learn, on the contrary I always like to see my employees wanting to learn more, ask each other, discuss problems among themselves. The training that is obtained during work is the most important, because it solves the questions as they appear. Training in the seminars of the importer is important but theoretical, which means that only part of it can be digested, for a good technician 60%. By contrast, in the workshop one can digest 90% of the on-the-job training.

It is very clear that the entrepreneur is using a balanced combination of formal training and incidental learning to keep the skills of his employees up-to-date and to attain the necessary flexibility in his workforce. In a small firm it is very important that the employees can replace each other. This is why the entrepreneur had trained his employees in the administration of the workshop. One of the results is that all technicians can replace the man working in the spare parts department.

The entrepreneur expects that in the near future modern computer technology will also play an important role in learning because on-line connections will be produced for faster communication with the importer and the car manufacturer. This will include the possibility of solving problems in an interactive way.

We have reached a point in technology where we cannot work without the disks and the CDs from the factory for our computer.

2.4 Non-franchised workshops with a strategic concept

The eleven micro car firms we have so far presented are all franchised car firms. We shall now go over to the non-franchised workshop. In Figure 2.1 we have distinguished three different types of non-franchised car firms on the basis of their market position and market strategy. Three of the 10 non-franchised entrepreneurs do follow a very well worked-out strategy about how to conquer a successful market position in this sector.

Figure 2.9 - Characteristics of two non-franchised strategic operating workshops

		case 13	**case 14**
1.	Country	The Neth.	The Neth.
2a.	Firm has existed since	1989	1984
2b.	Under current management since	1989	1984
3.	Skills of owner	entrepreneurship & management	craftsmanship & entrepreneurship
4a.	Workforce at start	4	1
4b.	Workforce now	11	6
5.	Market position and customer approach	• 1800 customers, local/regional • own research into customer wishes by questionnaires	• 900 local customers • insight into customer wishes on basis of personal relations
6.	Growth strategy	• expansion in non-repair services • workshop is just one of the services	• expansion in repair services • workshop services are core business
7.	Competitive advantages	• offering all services concerning mobility	• offering tailor-made workshop services
8.	Participation in networks	• participating in sector and in 'mirror' group of comparable car firms	• participating in 'vakgarage': association of independent car firms organising PR, purchases, weekend service, etc. together
9.	Organisation of work	• all-round mechanics working according team model • mechanics are doing reception of car/customer contacts	• entrepreneur is best qualified mechanic and is doing supervision and trouble-shooting • little specialisation between employed mechanics
10.	Training/learning	• all mechanics have initial vocational education • in keeping skills up-to-date emphasis is on learning by doing • sometimes courses arenecessary (for instance to update knowledge on electronics)	• all mechanics have initial vocational education • entrepreneur attends more courses than employees • transfer of knowledge by the 'boss as coach' principle

In fact two of them do clearly opt for an independent, that is to say a non-franchised position. They voluntarily - one of them has several times been given the opportunity to become a franchised Citroen dealership - prefer an independent status.

The third entrepreneur we will present in this paragraph can be characterised as an independent by necessity. Very soon after he started (1973) as an entrepreneur his firm was transformed (1975) into an authorised Alfa Romeo workshop. He held this status until 1993, when for reasons beyond his control the workshop became an independent repair workshop. However, this workshop still has all the features of an authorised Alfa Romeo workshop. They still service Alfa Romeo cars exclusively, and what is important for this study: the owner succeeds very well in obtaining anything - new Alfa Romeo cars, new equipment and even Alfa Romeo training for himself and his staff - that is necessary to keep his firm up-to-date by using his personal contacts. In fact this car firm has far more in common with the car firms presented in section 2.3 than with the two other car firms we are presenting here. The only reason to class this firm here is that it has no formal agreement with the Greek Alfa Romeo distributor.

The two other (Dutch) car firms have a central characteristic in common (see Figure 2.9). Unlike all the car firms presented so far including the non-authorised Alfa Romeo workshop they do not have a *make-orientation* but a *customer-orientation*. They both have a large group of steady customers and customer wishes are the guiding principle for these firms. For this reason they explicitly want to be independent, because they want to deliver to their customers what these customers want, including new cars from different makes. As a dealer of one make they would feel too restricted. They have both built up a good relationship with local dealers of different makes concerning the delivery of new cars.

The two firms also share the common feature that they participate in a network of comparable garages. The character of this network is very different but they are both trying in this way to strengthen their firm and to overcome some of the weaker points that small firms mostly have.

In the content and elaboration of their service concept the two firms differ greatly, and this depends greatly on the qualifications of the entrepreneurs/owners of the firm themselves. The entrepreneur of the 'total mobility service' firm has always dealt with the optimisation of customer relations while the entrepreneur of the 'total workshop service' first of all is a highly qualified mechanic. In fact they do what that are good at and they structure the services and the organisation of their firm along these lines.

Case 12: The ALFA ROMEO workshop: from authorised to independent

This company is an independent repair shop for ALFA ROMEO passenger cars. The workshop was established in 1973 by the present owner as an independent workshop, and has always repaired ALFA ROMEO passenger cars. From 1975 it was transformed into an authorised workshop, still for ALFA ROMEO cars, until 1993, when for reasons beyond the control of the owner the workshop became an independent repair workshop exclusively for ALFA ROMEO cars. For the period 1989-1993, it was the authorised workshop of the local authorised distributor of ALFA ROMEO cars, a situation that changed when the local distributor, and a former partner of the owner, decided to operate his own repair workshop, taking with him all the technicians by telling them that this workshop had no future at all as the new workshop was the authorised one.

The number of personnel in the workshop has changed radically over the last few years, especially since 1993, when the workshop became independent. All the employees of the workshop then left to go and work for the new franchised workshop that belonged to the local authorised distributor. The workforce then dropped from 13 to 2, rose to 9 again and has remained unchanged in number since.

At the beginning it was a bit difficult, mainly because I had to build everything up again from scratch. But, fortunately, I have fully recovered and now the franchised workshop is losing money and not me. I believe that you need much more than the dealership to build up a properly operating enterprise.

The owner has always tried to follow the technological development of vehicles. The workshop has always been equipped with modern machinery, and has been fully computerised for many years now. There is a computer system in which all the activities of the workshop are entered, such as accounting, history of car repairs, personnel administration up to checking of the working hours of the personnel.

The main advantage of computerisation is that I can keep full track of all vehicle repairs systematically. I can thus estimate the consumables and spare parts needed. This way the cost of our storehouse is reduced. We managed to reduce our stock from 8500 parts to 2500 parts today. We also know at any time how many repairs we have and what our turnover is.

There is certainly a difficulty in obtaining equipment from the importer-distributor, but the entrepreneur has overcome this difficulty by using his personal contacts, domestic and abroad, to obtain anything he thinks is necessary. As a result, the workshop is equipped with the state-of-the-art in the hardware and diagnostic units for ALFA ROMEO cars, which is always kept up-to-date.

We have no real problem in obtaining the equipment necessary. It might sometimes cost a little more in time and/or money, but we have all the modern equipment necessary for ALFA ROMEO cars. I do not think that we would have anything more if we were a franchised workshop.

There is collaboration between the workshop and a body repair workshop. There is also collaboration with spare-parts dealers and providers, software developers for the computers of the workshop and equipment providers. But the collaboration that counts more than any other is that with selected franchised ALFA ROMEO workshops, not only from Athens, but also from other parts of Greek territory.

I have an excellent relationship with many franchised workshops and authorised dealers of ALFA ROMEO. This is very important for our case, since we can find spare parts, diagnostic equipment, software, cars or even training through these unofficial channels. It helps us survive. When the importer, or an authorised dealer of the area does not give us cars, we bring them from 500 km away. We do not expect to earn from selling cars, it is simply a means of stimulating our other activities.

The main future plans of the entrepreneur is to become a fully integrated authorised ALFA ROMEO workshop. This is something that is unavoidable, according to him, as his workshop is of a higher standard than many authorised workshops and certainly the local one. There are plans for the expansion of the premises and the activities and, of course, of the personnel.

In the workshop there are 8 technicians, including the owner and his son. Among the 8 technicians there are 4 mechanics, 2 electricians and 2 apprentices. Electrical and electronic repairs are performed only by the two electricians. The apprentices deal with the simple service works while more difficult tasks are assigned to the technicians. The reception of the car, the test drive, electronic tests, the final inspection and the handing-over of the car to the customer are always performed by the owner or his son. No one else is allowed to do that, due to the lack of trust the owner has for his mechanics.

The only persons that are allowed to contact the customers are my son and myself. The reason is that once you let one of the technicians talk to the customer, he will either talk nonsense, or he will try to create his own personal list of customers, in order to leave the workshop and work for himself.

A record card is opened for each entry of a vehicle, on which all the subsequent repairs will be written along with all the spare parts that will be used, the time spent on the repairs, and, of course, the name of the technician or technicians who have performed the repair work. The owner believes that work of good quality is achieved better when only one man is responsible for a certain car.

The responsibility for each car belongs to one technician only. If it is necessary to have a second technician working for that car, he will also write down his name on the working card of the car, so that these data will be entered in the computer. Since 1991, we keep all the repair data of all cars. Thus, I always know which technician has done what job and when on a particular car. This is useful not only for observing all the repairs of my customers, but also I can blame those who have not done their job properly, in the case of complaints from the customer.

According to the entrepreneur it is difficult to find people with the necessary qualifications: honesty, technical knowledge and cleverness. One of the greatest problems these days is the lack of well-qualified technicians. What the workshop needs is technicians of generalised experience, but also with the will to work. It is much more easy to find young inexperienced technicians.

Technicians, in my opinion, have good theoretical background from school, but there is quite a gulf between theory and practice. When I hire a young technician, I always train him the way I want. Due to the lack of experienced technicians, I do not change my technicians easily. If I keep a technician after the first three months, it means that he is good and he will stay in the workshop.

However, not all mechanics can be trained in modern car technology. The entrepreneur believes that it is not possible for older, old-fashioned mechanics to be trained in modern vehicle technology, because they do not have the theoretical background to obtain such knowledge. This means, according to him, that continuing vocational training should be directed towards technicians of a younger age.

It is impossible for an old technician to deal with airbags or electronic control units. He does not have the background. It is like trying to go from the basement to the top floor of the building without passing through the intermediate floors.

The owner believes that the employees are more efficient when they are well trained, so that the efficiency of the whole workshop increases. All the employees of the workshop have a strong interest in obtaining as much training as they can. However, not all employees receive the same amount of off-the-job training. There is discrimination with regard to the technicians who are preferred to be trained. The owner does not send them all to seminars for training, only the best ones. This is sometimes used as a kind of reward for good performance. But the main reason for this attitude on the part of the owner is that the best technicians can more easily transfer their knowledge to the others.

The entrepreneur makes heavy use of his connections, not only to obtain specialised equipment, as mentioned earlier, but also to train his members of staff. Seminars held by the importer are one source of training for the people in the workshop. The entrepreneur often sends his technicians to the seminars held by the importer-distributor, as technicians of an authorised workshop. Another important source of training for the people of the workshop are the equipment providers.

The main criterion for the choice of our equipment supplier is his ability to provide us with training on his machinery. Training always takes place in the workshop, on the machines themselves.

Another source of training are the manuals and all the printed material and slides that the owner manages to gather on any subject. There is virtually no restriction on obtaining such information from the authorised dealers of ALFA ROMEO. Again, the owner's personal contacts are used.

The entrepreneur believes both in off-the-job training and in learning at the workplace. According to him the latter is the most useful and important way of acquiring new knowledge.

There are ways to repair an engine that can never be taught in seminars, you have to learn it on your own, through practice. To remove the various parts of the gearbox you have to twist them in a certain way; if you know then you do it immediately, if you don't you can spend hours trying to do the job.

Another important way of learning is through rotation among different jobs. This is not only instructive, but also stimulates the interest of the technicians on their job.

If you only ask the assistant to change the engine oil and remove wheels, he will never learn anything. He has to have some variety in his job. By rotating through various tasks, he will learn everything in a few years' time. If the worker always performs the same task, he will be very unhappy and may also feel incompetent.

Knowledge is also transferred from those who know more to those who know less on a subject. This happens quite often in the workshop, especially as not all of the workers are trained to the same extent.

In the case of learning at the workplace the entrepreneur strongly believes that studying manuals is always helpful and necessary but that this should form the second stage. The first should always be practical exercises on the subject ...

In order to learn how a machine works, you will not study the manual first, but you will ask the provider first and then an expert. Technicians are always interested in studying manuals, but they first ask me about the problem they face with a repair or with a new instrument.

Case 13: The total mobility firm

This firm offers its customers an extended set of services: sales (in 1996 100 new cars of different makes and about 150 used cars), workshop services for normal maintenance and repair work and for safety inspection (APK), shop attached to petrol station, car-wash

(3 automatic booths), dealing with all damage matters, car rental, leasing of cars, cleaning of cars.

We will do everything at the mobility level that customers ask for... That is also the reason why we are independent. From the moment you are a dealer you are forced to sell that specific make and you aren't even allowed to sell anything else. You don't have the freedom to sell customers what they are asking for.

The firm is doing very well at present and the entrepreneur is very confident about the future. In the whole package of services, the workshop is just one part. Only the less complex matters are dealt with. For the more complex repairs, special jobs, etc. the firm has contacts with various other specialised firms. These jobs are contracted out.

For an independent firm it is important to have access to all relevant technical information on all cars. In the past importers and dealers often caused problems in this area, but at present the situation is improving. To date this information can be purchased on floppy disk from publishers specialising in this field. Work also takes place at branch level on databases (with regard to APK, insurance, etc.) that are accessible to independent garages. The entrepreneur thinks these developments are also important for his own firm and he is participating in its development (branch committee on automation). He also uses these automated information sources because he thinks this is important for his own development.

The entrepreneur is 39 years old. He followed vocational education as a mechanic (primary and secondary level) but decided at an early stage not to stay in '*the job in overalls under cars*'. He was mostly active in jobs between mechanics, customers and management, usually in a Citroen garage; in 1989 he took this garage over for himself. He maintained good and steady relations with Citroen but did not accept the dealership when they asked him to do so because he wanted to stay independent. He wanted no restrictions on the options for services to his customers.

In fact the firm tries to react to all the needs in relation to mobility of his relatively steady circle of customers (about 1800). The firm largely supplies these services by itself but a significant proportion of the work is also outsourced to other (specialised) firms. However, the firm always maintains contact with the customers, and in the case of outsourcing acts as an 'intermediary'. The firm conducts customer research in order to keep in touch with its customers and keep informed about their opinions and wishes.

'My customers receive a lot of leaflets and brochures from other garages and dealers and maybe my customer is asking himself if I still exist. Cars need less maintenance those days, and there are only a few contacts between the garage and its customers. So you have to keep in touch. That's why I offer more services than just selling new cars and that's the reason for my own customer research.'

As well as the entrepreneur and his wife, there are a total of 11 employees in the firm: 1 reception, administration workshop, bills; 1 (part-time) administration and book-keeping; 1 filling-station/shop manager and 3 (2 full-time, 1 part-time) workers; 1 workshop manager and 4 mechanics.

The workshop manager does not have the position of the traditional workshop boss but plays an intermediate role between customer, mechanics, subcontractors and entrepreneur.

He is not a mechanic. He is a link between customer and workshop who is good at communication. He is also very good at organising, he can do a hundred things at the same time... he is very important for the smooth running of everything. For that reason we don't call him the workshop boss: he is more. Besides the mechanics are workshop foremen themselves. They regulate and organise their work themselves. They are qualified and experienced.

The mechanics all have a vocational qualification through the apprenticeship system. Three of them are also qualified for safety inspections (APK). They are between 30 and 40 years old and are long-term employees of this firm (between 10 and 15 years).

The firm operates and participates in three external networks. The entrepreneur participates in different branch committees (see above), but also participates in a sectoral activity known as 'mirror firms'. Groups of about 10 independent garages visit each other to discuss and evaluate each other's firms in all their different aspects. The entrepreneur says:

I learn a lot from these mirror visits. This type of communication and evaluation is very good for independent firms. Dealer firms see each other regularly on different occasions but independent firms are more individual and it is very rewarding to look outside your own circle.

A second network is the network of suppliers of spare parts (the firm has no storage of spare parts of its own) and, more importantly, the network of dealers. The firm has arrangements with different dealers in the region on delivery, warranty terms etc. for new cars that they sell to their customers. These arrangements also work well for the dealer because the dealer also benefits from the sales by the independent firm.

The third network is the network of subcontractors. The firm is not able (shortage of space, environmental demands) and does not want to carry out all types of workshop jobs. The advantage is that the workshop does not become too large and the customers can still be helped with all the technical and damage problems they encounter with their cars.

The outsourcing of the various more complex activities has the result that the work that remains for the firm's own workshop is of a less complex and more routine nature.

The work consists mainly of normal maintenance work, the smaller repair jobs and safety inspections (APK).

The still rising quality of cars in general (this is also the case with car electronics, which are becoming increasingly trouble-free) has made maintenance and repair less important for the firm. It has less emphasis in the overall activities of the firm but remains an essential part of the total service to the customer.

The internal organisation of the workshop gives great responsibility and autonomy to the mechanics, and their jobs are generalist in nature.

In reality there are no real hierarchical relationships in the workshop. As mentioned earlier, the workshop manager does not give guidance to the mechanics. The mechanics themselves are jointly responsible for the daily organisation of work, carrying it out and checking it. The entrepreneur says on this subject that:

This is possible here because it is a small group of mechanics with professional skills and many years of experience. Moreover, they have been working together for a long time. This group can run their own businesses in this way. If the group was larger this would probably not be possible... The customers who want a certain mechanic ... that is just possible.

The principle is that every mechanic can do all the work on every make. Some of the mechanics are very good at certain things and they have their preferences, but if necessary they do anything. They manage the division of daily work jointly and in doing so take into account each other's specific skills and preferences.

They have only one boss and that is the customer.

Three of the mechanics are qualified under the apprenticeship system and one followed the full-time equivalent. At present there are no apprentices in the firm because there is no need for new staff (no turnover of staff since 1989 and no growth in the workshop).

Over the last three years the mechanics have only attended a few courses: twice APK (safety inspection), once concerning auto-electrics/electronics and once concerning fuel systems. One mechanic indicates that he has shortages in different areas.

Good vocational qualifications combined with long professional experience are important for the way in which informal learning methods play a role in adapting to change.

Normally one finds out most from one's normal professional skills ... importer's training is not available to us but we get our information from our related dealers and simply from practice. We go a long way towards solving problems by ourselves: sometimes this costs us a lot but you also learn from it and that is important... Until now we also could manage in this way with regard to car electronics. Good communication with each other, with the dealer if necessary and in most cases you can solve the problem. They do it together, or they ask each other... But at present we are still having problems with modern car electronics. You need more basic knowledge and that's why we decided that two mechanics would participate in a course at a private, specialised institution. The costs are high (2,000 guilders per course) but the course is very practically oriented. The mechanics themselves have decided who will attend this course.

Learning in and through the daily work is relatively important in this workshop because few courses are taken and because importer training is not available. In this workshop the work is not too complex and is rather routine in character. Information on specific makes can be obtained from related dealers, and the basic professional qualification through education and experience is quite good. These factors are very important for the process of adaptation of knowledge and skills in this workshop.

The most important learning methods mentioned by the mechanics are: learning by problem-solving on their own and learning by rotation between tasks. At the same time the mechanics indicate that the learning potential of good communication with the external network (suppliers and experts) and internal colleagues is far from being utilised to its full extent.

Case 14: The independent total workshop service

This independent firm has also a `total service' strategy, but in this case the strategy is directed specifically towards services related to the workshop. The emphasis used to be on sales and repair, while more complex matters were outsourced. Over the last few years the entrepreneur has changed his priorities. Now he sells less (new) cars, he does more in his own workshop and less of his work with subcontractors and he is expanding his service package to include the sale and fitting of luxury accessories, with a complaints service etc.

Formerly we did a lot with subcontractors, now we do it ourselves as much as possible. Now we do more damage repairs, body work, glass repairs and we do more in accessories... it's nice work to do and you earn more. We buy equipment for these things and we do it ourselves.

The trick is that you can offer your customers a complete package of services.

The firm has about 900 customers and the entrepreneur himself knows all of them personally. He keeps his customers through a personal approach, good and reliable work and through a very flexible service (including in the evening and at weekends if customers are in trouble). What he is doing is in fact creating a bond between the customer and his firm (instead of a bond between a make and a customer as in the case of a dealer firm). The entrepreneur holds the opinion that an independent workshop is better than a dealer workshop.

In an independent workshop one is learning a certain way of thinking, of problem-solving ... and dealers, they always have the same car and they do everything without thinking. If you go to a dealer with a fault that rarely occurs they often fail to find it because it is not in their standard programme. We first search for the underlying problem and we solve that. So the chance that the same failure will occur within a short time is much smaller. A dealer does everything in more of a routine way and that is not always better.

The entrepreneur has had his vocational qualification (MTS motor-vehicle technology) since 1984. At the end of that year he started his own business. First he worked alone but...

I only kept that up for three months and then you find out that it does not work if you have to do everything alone. If you need spare parts... you have to close down your shop... you can't manage everything.

In 1985 he hired two apprentices. At present besides the entrepreneur and his wife there are two qualified mechanics and an apprentice. In addition, there is a part-timer working for the firm for about 10 hours a week doing all sorts of support jobs. One of the mechanics has a vocational qualification at the primary and secondary level and he is also qualified in car electrics. The other one is qualified at the primary level and is continuing his education at secondary level at present.

Between 1985 and now various other mechanics have been employed but they did not fit into the firm in one way or another. This was due to problems they had with colleagues or customers or problems with the way the firm operates (working hours, flexibility, etc.).

The entrepreneur says that his firm is flourishing at present and he will expand further until the firm is twice its present size within the next five years.

As mentioned earlier, the strategy of the firm is to base itself on its own regular customers and supply them as far as possible with services from the firm itself. In this strategy the entrepreneur opts for generalisation and not for specialisation. Cars, in particular new cars, increasingly resemble each other (in their technical aspects) and require less maintenance, so generalisation and a broad range of services are a better basis for his workshop according to this entrepreneur.

He also bases his investments on this concept. He does not look whether an investment in new equipment will be profitable as such, he considers whether he will be better able to fulfil customer wishes and can work more efficiently. *'I just want to be able to serve my customers by myself'*.

This firm has joined the `vakgarage' [specialist garage], a regional organisation of colleague independent workshops which organise various things together (purchasing spare parts, joint agreements with insurance companies, joint PR, joint assistance service at weekends, joint purchasing of new equipment and also of courses etc.). In this way an attempt is being made to strengthen the small individual independent workshop by organising some aspects on a common and larger scale. The entrepreneur says about this organisation:

All these things we organise together in the `vakgarage' are a great help of course, but in the end you have to do it yourself as an entrepreneur. It is just a good help but ultimately it depends on the qualities of the entrepreneur.

The organisation can be characterised as follows:

- few indirect functions. Only the entrepreneur's wife does the administrative work and accountancy. There is no specific reception function: every worker accepts cars if customers deliver them.
- there are hardly any hierarchical differences. The entrepreneur is in charge of general and daily management but mostly works in the workshop as a 'primus inter pares'. The mechanics each have a specific area of responsibility: one for environmental aspects (used oil etc.), one for tyres and one for oil.
- everybody is broadly employable, and it is ensured that everybody does everything, not just what can do best or likes most. There is a division according to complexity which depends on qualifications and experience. The most complex and new things are at first done by the entrepreneur himself, and he makes sure that other mechanics learn when things occur more frequently. Although the entrepreneur plays a central role, the mechanics are able to run the firm independently in the absence of the entrepreneur (for example on holiday).
- there is a high degree of internal flexibility. Every mechanic can do every job and the absence of one of them never causes major problems.
- car-electronics problems are mostly handled by the entrepreneur himself because he enjoys this work very much and because he is good at it. The other mechanics can also do this work, handling new electronic diagnosis equipment, repairing car electronics etc.
- ultimate responsibility for daily work, checking before delivery to the customer rests with the entrepreneur.

- the entrepreneur sees his employees and himself as a team and he is trying very hard to reduce the gap between entrepreneur and employee. The mechanics have to be oriented towards the firm and its customers. He also accepts the mechanics working in their own time for their own customers and he even lets them do this in the workshop with the workshop equipment.

The entrepreneur occupies a key position in the learning process in this firm. Although good basic vocational qualifications for all the employees is a relevant factor, the learning of new things is mostly done by the entrepreneur and he transfers the new knowledge/skills to the other mechanics. This is done partly by transferring actively (showing methods, giving advice, helping) but also by the mechanics finding things out for themselves.

The mechanics also attend courses themselves. They do this at the request of the entrepreneur and on their own initiative. The entrepreneur makes sure that it is not always the same mechanic who attends courses.

'Learning by doing' is very important in the informal learning methods. The most important methods used are:

- instruction and support by the entrepreneur;
- re-allocation between different jobs;
- consultation and discussion among colleagues;
- learning by using manuals;
- learning by doing: in particular solving problems which do not occur often.

They only consult external sources such as dealers in very exceptional cases. They simply solve problems by themselves.

The most important point of the whole story is that you learn most by doing it. Although you need basic skills and knowledge, if you don't do it you never will know exactly how things work.

2.5 Non-franchised workshops with some specialisation

Among the 21 car-repair firms there are four non-franchised workshops that are (or were) more or less specialised in a particular make:

- A Spanish workshop making 35% of its turnover on CITROEN cars. This firm does not have a direct commercial relationship with the CITROEN importer but a contract with the local CITROEN dealer.
- An authorised Spanish IVECO workshop. In the first few years, in the period 1990-1992, this was very important. In the meantime the bulk of the business has changed over to other makes.
- A Greek workshop making almost all of its turnover on OPEL cars, particularly OPEL diesel cars. The firm nevertheless does not have any formal relationship with the OPEL importer.

- An Irish workshop specialising in Mitsubishi space wagons.

The two last workshops are clearly non-franchised workshops. In the case of the first two workshops the position is less clear. We have classified these two workshops under 'non-franchised' as the majority of the turnover of these firms is made on cars for which they are not authorised.

The first three workshops clearly have a great deal in common. All three repair firms are of the same size: 4 or 5 workiers. In all cases there are, in addition to the owner himself, an apprentice and some experienced mechanics (see figure 2.10. We have omitted the Irish workshop because only two people connected by family ties work in this firm).

Figure 2.10 - Characteristics of three specialised non-franchised workshops

		The CITROEN workshop	**The IVECO workshop**	**The OPEL workshop**
1	Country	Spain	Spain	Greece
2a	Age of firm	1956	1990	1982
2b	Under current management	?	1990	1982
3	Specialisation	35% CITROEN 65% other makes	At the start IVECO lorries important; now less important	OPEL cars, in particular with diesel engines
4a	Total workforce	5	5	4
4b	Total outside staff	1	4	3
4c	Total workshop staff	4	5	4
5a	Organisational positions in workshop	owner head mechanic mechanic apprentice	owner head mechanic (partner) mechanics (2) trainee mechanic	owner mechanics (2) apprentice
5b	Specialist	none	none	owner (diesel-engines)
6	Initial vocational education	only chief mechanic	none	all, but low level
7	Continuing vocational training (CVT)	everybody except apprentice (sources: CITROEN, suppliers, guild)	hardly any participation in CVT	only owner participates in CVT
8	Incidental learning	clear relationship with organisation of work; hardly any dissemination of CVT knowledge by incidental methods of learning	most important way of learning; everybody, including the owner, has learnt the job by doing	most important way of learning for the employees

There are also differences. Most relevant for this study are the differences in vocational education and training. In the IVECO workshop none of the mechanics have followed formal vocational education or training for this profession. In the CITROEN workshop only one of the mechanics has completed initial vocational education as a qualified mechanic, but all the employees of this workshop have followed continuing vocational training. In the OPEL workshop all the employees have followed initial vocational education, but the level of this basic technical education is not very high. In this workshop the only person participating in continuing vocational training is the entrepreneur himself. He transfers his knowledge and experience to the firm according to the cascade model.

Although these three workshops have a great deal in common we see quite different training and learning strategies, even between the two Spanish workshops. In the case studies of these firms it clearly emerges that the different training and learning strategies in these firms are due to the personal views of the entrepreneurs as well as the way they have shaped the organisation of work in their firms. In the following we will present more information about the training and learning strategies and their backgrounds for each workshop separately.

Case 15: The CITROEN sub-dealership: continuing vocational training as survival strategy

This firm, founded in 1956 by the father of the present owner, is and always has been a typical family business. The firm has two departments: repairs and sales, the latter including the firm's administration. The owner and his sister work in the sales/administration department. Three mechanics work in the repair department:

- The head mechanic, a brother-in-law of the owner, who is in charge of the reception of customers, making the first diagnosis, dividing out the repair jobs, checking the repair jobs and handing over the cars to the customers.
- A skilled mechanic (without family ties to the owner) and an apprentice (the son of the owner). There is no functional division of work between these two mechanics, but in accordance with his status the apprentice is excluded from jobs of a particular degree of difficulty.

This workshop is the second link within the sales network of the CITROEN manufacturer. They do not have direct commercial relations with this manufacturer but a contract with the local make dealer. The firm repairs all makes and sells second-hand cars of all makes. The firm is also selling new cars but only of the CITROEN make. The entrepreneur is not allowed to sell new cars of any other make. Only a minority of the cars the firm repairs are CITROEN cars. Most of them are of other makes...

We could virtually say that we have 35% of cars of the same make and 65% of different makes.

Because the CITROEN customers are only a minority in the firm's customer file, the RENOVE Plan - which subsidises the purchase of a new car in exchange for a car more than 10 years old - on balance has negative consequences for this workshop. Car manufacturers successfully link buyers of new cars to their own network of authorised workshops by means of warranty periods. Moreover, the car manufacturers make use of their strong position with regard to car-repair firms. The scales fixed by the car manufacturer are very tight, and if they have to replace parts, they are not given any kind of reductions on the price of replacement parts...

They (Citroen) have their own fixed scales. And we have to repair cars under warranty according to those scales. And then, when we have to replace any components, we have to pay for those spare parts. We have to pay for the spare parts in 30 days and warranty repairs are paid to us in 90 days. Besides, we don't get any discounts on spare parts. In short, they are really being tough on us... They (their scales) are very tight, very tight. ...According to warranties, factory assembly is really -I would say that assembly work affects those who have to do the repairs. It affects you because they don't give you any margin at all. Only if we had at least the margin of discounts in spare parts, but this is virtually non-existent.

The firm accepts all type of repairs but subcontracts some of them.

According to the manager, the firm's technological level is a good one despite the fact that they do not have the most sophisticated equipment and tools. They have diagnostic equipment for electronic systems, and the repair shop is computerised and makes regular investments in the renewal of equipment, tools and instruments. With regard to the near future, they have not foreseen any important investment in equipment because it is too expensive now. A major investment to keep up to date would mean 20 to 30 million pesetas, which exceeds the capabilities of such small repair shops.

If the repairs involve diesel engines or parts of the electronic circuit which the repair shop cannot repair, they disassemble the part and send it to other repair shops to have it repaired. Once they get the repaired part back, they assemble it again, check that the car is working properly and hand it over to the customer.

We disassemble the injection pump and send it to a specialised repair shop. This is what we call subcontracting or subhiring. The pump is repaired there, and we assemble it and hand the vehicle over to its owner.

They also have relations with a diagnostic centre that has been created recently. This diagnostic centre is in Barcelona and is the first of its kind in Spain. Their relations with the diagnostic centre acquire special importance when they have major problems. If they cannot identify the faults with their own diagnostic systems, they take the car to that centre. Only if the problem cannot be solved there do they as a last resort refer to a dealership repair shop.

If we have a problem we go to the diagnostic centre. And then it is a matter of sorting out the problem and having a diagnosis made ... If we can't manage to get it there, we take the car to the dealership.

However, they do not ask for the dealership help very often. They usually manage to solve the problem alone or with the assistance of the diagnostic centre.

No, no (it doesn't happen very often) because with our capacity and the testers we have, we usually manage to sort it out with or without the help of the diagnostic centre.

The firm's competitive strength rests on two pillars. The first one - as in all small repair shops in the sector - is quality in repairs and customer service. Direct contact between mechanic and customer is essential to speed up repairs and link the customer to the repair shop.

Our customers talk to the mechanics. There is very high fluency in contacts with customers here. This is what the customer likes. The customer does not like very much - well, Spanish customers - do not like going to a repair shop where their car is given a location number and where they become a number as customers. Not Mr So-and-so, but a number. Once they explain what the vehicle problems are, the receptionist notes them down. The receptionist takes in the car, sends it to the repair shop manager and explains what he has been told. Here it is not like that, there is a more direct, more familiar contact. And this is much better in the case of faults which are unclear; then it is the customer - like going to the doctor - who has to explain the car symptoms in order to make a good diagnosis of the fault. It is at this point that dealerships fail. Some ...It is a much stricter organisation and, well, sometimes the customer's interpretation is not accurate. Here it is more accurate because there is more personal treatment...

Of course permitting contacts between the mechanics and the customers involves some risks, but the entrepreneur is of the opinion that this risk is not as large as it used to be...

Once the mechanics saw the opportunity to become independent, they used to rent a site and set up their own repair shop. But, well, there was a time when this could be done because the technological innovations were not so significant. Now they are and a repair shop has to be well equipped. No matter the size of the repair shop, it has to be well equipped and the mechanics have to have considerable knowledge of electronics. Otherwise, repairs can't be done well.

And here we are at the second pillar the competitive strength of this firm rests on: the continuing training of the mechanics. The manager's future strategy is based on this point. Without training repair shops will not have any future. A repair shop without continuing training will not be able to survive. In this respect, it must be emphasised that for a family business over several generations, economic success is viewed in the long term.

The owner is a member of the GREMI's general assembly and also works for a municipal training centre in the organisation and promotion of vocational training courses. This indicates that the owner is very aware of the importance of continuing vocational training. The mechanics (including the owner) often take part in all types of training courses organised by CITROEN, by suppliers or by the guild.

All types. In specialised subjects, maybe, injection systems - all types: monopoint, multipoint, and any other - in brakes: so, all the short courses which can be provided by Bendix-Bendiberica ... Apart from the courses we do in Citroen, we do all types of courses offered to us or even those organised by the guild itself. The guild, well, there is an automobile training centre here in town which also provides training courses and we do them, too. Whenever we can get involved in the dynamics of training -either practice or theory - we go. We have a special concern or will to learn ...

Over the last few years the mechanics participated in courses about electronic systems, new equipment and repair shop management. Such participation sometimes creates problems due to the absence of the participants at times when there is extra work. Then they request the owner's assistance, who then lends a hand in the repair shop management.

Then, everything goes wrong because we are short of staff... But, well, it doesn't take many days - for instance, the present course will take two days, and is given here. Perfect, we can manage for two days. When they have to go to Madrid, the courses usually last for four days. So, we try to manage. On those occasions I have to substitute for the absent mechanic, and have to go to the repair shop and directly take on the tasks of the absent operative.

According to the owner, there is no pattern of informal training set up to disseminate the knowledge acquired by a mechanic who has taken part in a continuing training course. In the short run, the participant who attended the course therefore becomes the specialist in that specific type of problems.

No, he keeps that knowledge to himself (the knowledge acquired). Only to himself, because it is difficult to transmit that knowledge. It is. Then we rely on him for any problem which might arise; then, we refer to the mechanic who has done the course and he assumes that specific repair...

To avoid too much specialisation in the long run the owner has a strategy that every mechanic participates in all relevant courses.

Let's see, the thing is that one of the mechanics will do the ABS course now, for instance. Then, in some months' time there is likely to be another ABS course, and another mechanic will do it. This is how we do it, in turns.

The head mechanic and the skilled mechanic confirm that hardly any transfer of knowledge takes place between them. A learning process takes place at the workplace but this is not a process where the mechanics - with the exception of the apprentice - learn *from* or *with* each other. Both skilled mechanics mention the same incidental learning methods:

- learning by using handbooks, manuals, etc
- learning by self-study from textbooks of apprentices, etc
- learning by asking help/advice from experts in other workshop/specialised firms
- learning by asking help/advice from technical division of importer/supplier
- learning by explanation with new equipment/tools
- learning by solving problems on one's own.

The head mechanic and the skilled mechanic do not mention any learning method at the workplace based on the transfer of knowledge within the repair shop. They almost exclusively learn form their external contacts, that is from experts and customers in addition to available manuals and textbooks.

The apprentice mechanic has recently joined the car repair shop. The incidental learning methods he assesses as being important reflect his specific situation:

- learning new things under the responsibility of the chief mechanic
- learning new things by helping an experienced mechanic

- learning by using handbooks, manuals etc.

According to this apprentice his work situation offers enough opportunities for learning by these methods.

Case 16: The IVECO workshop: focusing on mechanical repairs and learning by doing

Before starting his own business in 1990 the owner had a job as foreman in a NISSAN dealership. He previously worked in other repair shops (passenger cars, vans, buses, forklift trucks, etc.). In 1990 this was the first workshop in town repairing buses and lorries. The business was doing very well until 1992 when, after the Barcelona Olympics, many self-employed lorry drivers faced financial problems and stopped paying their debts, putting this repair shop in a precarious financial situation. The firm is still an authorised IVECO workshop but at present the bulk of the business is on passenger cars and four-wheel vehicles, although not on top-range cars.

If a potential customer turns up with a luxury car, we imagine there will be payment problems because this customer does not have money. About 40% of luxury car drivers can afford it and they go to the make-authorised repair shops. The other 60% are show-offs and go to other repair shops like ours; and we are going to have problems with them.

The repair shop limits its activities to mechanical and electrical repairs. They do not handle electronic systems repairs because they lack the specific equipment and knowledge.

We do not handle ABS Systems. You see, I do not touch steering and brake systems as I do not have the necessary equipment for handling them. We are very clear about this, here at least... If we cannot repair it, we do not touch it.

Regarding injection systems, what we do is to clean the circuits. And if we have any problems connected with the injection system we take the car to a nearby repair shop where they do this type of job. We take the car there or tell the customers to go ... and they get the injection system repaired.

The repair shop does not have the most highly developed diagnostic technology. The owner offers three arguments for this.

- The lack of financial resources.

  It is rather a problem, because we cannot, for sure, afford to spend one or two million a year on new equipment. If you need to buy equipment for BMW, for instance, and you do not know if you are going to have customers with a BMW, how are you going to spend 600,000 pesetas on new equipment...? And the same goes for Volkswagen, Mercedes or any other make...

- The rather critical approach of the owner with regard to new diagnostic techniques.

  Technology is not so complicated, you see. We also repair it, too. I have worked for Volkswagen and, ... the available equipment for identifying car problems makes it very complicated but it is not so much. It is easier for them to identify the problem with the equipment they have than it is with our equipment. We improvise much more in our job. You get an idea about the problem and create a picture in your mind of the possible

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causes and you detect the problem by a process of elimination. This is what Volkswagen equipment does, for instance, by elimination or by entering some numbers in car diagnostic computers. You enter some codes and get an indication; from this indication you go to a list and the problem is identified. It is also the same, but I act more quickly.

- The conviction of the owner that there still are good prospects for workshops focusing on mechanical and electrical repairs.

  There will never be problems, either now or in five years' time for a person, in any repair shop, in changing oil, shock absorbers, brake shoes, exhaust pipes. Everybody will always be able to do that. In the future those which will eat up each other will be the repair shops doing "pollos" ["Pollos" - chickens - are technical problems difficult to solve and which do not yield much "carne" - meat - that is to say: profit]. All the problems end up in the repair shops and all the other ones nearby continue to eat meat, that is to say, oil, filters, brake shoes.

The firm's competitive strategy in oriented towards quality in repair work, that is to say the customer does not come back with the same problem several times again. Another decisive factor, according to the owner, is the way in which his firms treats the customers.

All the make repair shops have not known how to give the customers the importance they have. We give it to them here, that is why many come and do not go to their make repair shop. And normally most of those who do not go to their make repair shop believe that they are going to rip them off. And they do rip them off - that's my opinion - and people feel cheated. There they have a list saying that this and that has to be replaced at 50,000 km and what the mechanic at the time has to do is to replace all of it. This has been established by the make parent company. Then the customer gets everything in the list replaced and he/she is going to pay 50,000 pesetas when perhaps it was not necessary to replace everything. And this is all made for ...., as I always say, the more modern the cars the more they are made for idiots.

At the same time the owner is aware that his strategy is threatened from a different angle. In the long term he sees the problem of the massive emergence of petrol stations in supermarket areas where they will change the oil, replace tyres, etc.., which will attract many customers.

They are already making money. In short there will be fifty supermarkets which will install a repair shop next to them to change brake shoes and the lot and then they will also stop making money. Everything is getting complicated.

It is evident that the division of work is not restricted to the repair shop itself. The owner passes certain types of repairs (electronic systems, but also bodywork) to friendly repair shops. These workshops therefore belong to an informal network of car repair shops.

There is also an internal division of work. The owner is in charge of external relations, car reception, first diagnosis and distribution of tasks. Despite the fact that he is a car mechanic and specialist in pneumatics he hardly ever does any repair work. His position in the repair shop has been taken over to great extent by his partner, the head mechanic. If a car has electrical problems, it is the head mechanic who does the job, since he is the only one specialising in this area in the repair shop. There is no specific specialisation between the three mechanics. One of them has not yet achieved the qualification status of the other two. However, he does the same repair work under supervision.

None of the 5 employees, including the owner, has completed initial vocational education. However, all of them except the youngest one, have wide professional experience in other repair shops where they have worked previously.

You learn in other workshops and not in schools.

The employees hardly ever take part in continuing training courses, in spite of the fact that there are clearly opportunities, for instance courses offered by IVECO...

The problem with IVECO's courses is that you have to go to Madrid. There were some courses - perhaps now they are included in FORCEM; there was a type of course on electronic systems, as part of a similar programme, which was either totally financed by them or they gave you some assistance to travel there. But we did not go, the truth is that we did not go. We do admit that we all need information. It is a complex matter because the information you receive is too expensive, or at least we find it is too expensive. And I am not saying that it is too expensive and then we go out for a few drinks and spend the money; no, it is not that money. The thing is that work presses down on you and ... In conclusion, there are different ways of seeing things.

It is likely that the owner's negative opinion about the effectiveness of continuing vocational training plays a significant role here...

I took part in several short courses organised by makes, such as IVECO, Pegaso, Volkswagen, SEAT and NISSAN. Well, I have learnt things, but learning is a very relative thing. When you go somewhere and sometimes you have to discuss with the teacher you have in front of you ... I find that it is essential that the people giving the course are professionals. Then, when you see they are not, you go to pieces ... when they do not have the slightest idea and they are giving courses. So, you do not feel like doing any more.

The fact that none of the mechanics in this repair shop has received formal (initial) vocational reveals the great importance of informal learning at the workplace. All of them, including the owner, have learnt their job by doing, as they went along. However, the high degree of professional experience of the mechanics and the restriction of the firm's activities to mechanical and electrical repairs play down the importance of any type of training. In this context we can talk about a certain routine of work in which extraordinary problems hardly ever appear. When they do, those problems help them to learn as they go along. The youngest mechanic is an exception to this, since he is still acquiring professional experience. For him the relations with the other mechanics are very important: he is learning from his more experienced colleagues, by solving problems and doing non-routine repairs.

However, there is a type of training with certain significance in the repair shop. They receive, on a regular basis, information from IVECO as well as from car manufacturers' suppliers. The owner passes this information on to his employees as photocopies.

We receive information leaflets. We have information about car modifications in repair shop manuals. If there is any modification because a part has emerged with some fault we also receive that information. Iveco, for instance, informs you about the type of chassis and modification, about a vehicle which may have a repeated problem and the component can *break; they tell you where the problem is or the chassis numbers with the problem in order that you can warn your customers. This is what all makes do. The other mechanics learn about it because I make photocopies and pass them on. When it has to do with electrical matters I pass it on to the head mechanic. And when it has to do with mechanical problems I pass the information on to the other mechanics.*

Case 17: The OPEL diesel workshop: the entrepreneur as trainer

This firm, founded in 1982 by the present owner, is an independent repair shop - excluding electrical and electronic parts and body work - for OPEL passenger cars and taxis. A large part of the workshop's business is based on the repair of diesel-engined cars, since the owner is a specialist in diesel engines. It is one of the rare cases of an independent workshop that repairs vehicles of only one make.

I have created a good name in the whole area and among my customers, for repairing exclusively OPEL cars. If I started repairing vehicles of others makes too, I would jeopardise my reputation. On the other hand, under the present competitive circumstances, it is too difficult for me - and for any other, I believe - to follow the evolution for more than one manufacturer's vehicles.

There is collaboration between this workshop and a specialised electrician and another specialised workshop for fuel pumps and turbo-charger systems.

We do not have a diagnostic unit, only an exhaust gas analyser. If we cannot have a diagnosis on a problem car, then we send it to the electrician with whom we collaborate, who has an ECU (Electronic Control Unit). If the problem persists, mainly because the error code that the diagnostic unit gives is unknown for our non-OPEL unit, only then do we turn to the dealership. But even without the equipment, we never give up, and always try hard to find out what the problem is. Most of the time we can manage. It takes a little more time, but we cannot afford to lose our customers. We do not have that luxury.

We are always asking the opinion and advice of our electrician on particular problems we are facing. He does the same for matters of our speciality. What we try to avoid is asking the importer, not only because this spoils our image, but also because, usually, what we don't know, they don't know either, or - sometimes - they don't want to tell.

The entrepreneur tries to keep up with technology and training as much as possible. The financial resources for doing so are limited, but this is not the only reason that the workshop does not possess all the (technological) equipment that is necessary to date. Another very important reason is that car manufacturers protect their authorised workshops by excluding the non-franchised workshops from make-specific equipment and training facilities.

There are four people working in the repair shop: the owner, a chief mechanic, a mechanic and an apprentice. The owner has full control of every task from the reception of the car to the final check and its delivery to the customer. He also does the diagnosis of the problem by interviewing the customer. In the case of an emergency or a difficult fault the owner is always involved in solving the problem. Sometimes he uses these opportunities to transfer his knowledge and experience to the employees. As far as the employees are concerned there is no specialisation of tasks, since everyone does any repair job. After the initial diagnosis the car is assigned to one of the mechanics, depending on the nature of the problem and the experience of each one of them. The apprentice is the assistant of the other mechanics and he only does repair jobs under the close supervision of one of the experienced mechanics. When the owner is not present the chief mechanic is in charge but this situation seldom occurs.

According to the entrepreneur one of the greatest problems these days is the lack of well-qualified technicians. What the workshop needs is technicians of generalised experience, not necessarily on OPEL cars, who have the ability to learn what they do not know. And this is exactly what is missing today. A significant factor in this lack of people of good background is the low level of basic technical education.

You need to find a good worker, but he does not exist. The solution is to recruit young people. When you find someone at the age of 18-19, then they stay with you for 1-1.5 years, then go to the Army and, when they come back, they do not know anything. But you still have to pay them. Technicians of today cannot compare with those of my age. I remember that, when I was an apprentice, I was dealing with new things for hours, so that I could obtain in-depth knowledge of them. Today technicians do not pay proper attention to their jobs.

Due to these problems in recruiting personnel, the entrepreneur finds it difficult to fire someone who is not fulfilling his expectations, since it is not certain that he will be able to find someone better and it has a severe financial impact on the workshop. On the other hand, it is not possible for an independent workshop to provide incentives to the workers in order to improve their performance.

This clearly has to do with the fact that the entrepreneur uses the repair cost as a weapon in the competition with franchised workshops. In his estimation the repair cost in his workshop for a given job is only half that in the franchised workshops.

The owner believes that without training you cannot keep up with developments in such a fast-moving environment. But even more important than training itself is the will and the ability to learn. In the workshop, only the owner attends seminars and obtains systematic training. All the information is then passed through him to the employees. It is therefore a workshop where the bulk of the training happens through incidental learning.

The main reason for this lack of continuing vocational training of his mechanics is that there are no training provisions for employees. The Federation of Owners of the Independent Workshops only provides training for its members, i.e. the owners and not for their employees. Without such provisions continuing vocational training of the employees becomes too expensive for the independent workshops, which are already facing a prolonged crisis.

Another reason for the lack of training of the employees is the lack of interest from the workers' side to learn more. There is no clear explanation for that, according to the entrepreneur, but it seems that the reason is the lack of appropriate incentives.

I try to give them every possible chance. But I see that only the apprentice I have is willing to sacrifice his free time to learn more. There is a huge difference, in that respect, between the *technicians of my generation and those of the present. We were eager to learn, they are not. They usually give me the impression that they come here only for their pay and nothing else.*

As mentioned, the bulk of training in this firm takes place through incidental learning. This is the main source of training for the owner and the only source of training for the employees.

After the seminars on catalyst technology that the owner attended, he taught the technicians himself, mainly through the exhaust gas analyser. He kept explaining to them the meaning of the different displays and error messages.

Our equipment has greatly helped me in transferring information to the technicians. They are now in the position of handling most of these problems on their own.

The entrepreneur spends a lot of time training his employees individually or as a group.

When I do a job for the first time in the workshop, I have one of the mechanics doing it with me. Next time, I ask him to do it and I simply check him. Then, I do the same with someone else, and so on. This is something done on a daily basis.

When there is an opportunity, and not much work to do, and there is a car in for repair that could be used for the purpose, I ask them all to come together, to show them a certain procedure. When we have a new model of a car, I gather all the information I have at hand for this model and I get all the technicians together to show them as much as I can, especially the differences between the new model and the previous one.

Studying manuals and technical books is also used, especially when these are written in Greek. Another way, which does not happen often, is through self-training. The entrepreneur tries to let them take their own initiative in order to increase their interest and confidence.

The mechanics also talk to each other about the problems they are facing. They prefer to ask their colleagues about something they do not know rather than the entrepreneur, because they do not want to show the owner that they do not know.

This does not bother me, since it improves the working environment and increases their knowledge. Besides, every difficult task is solved by me and I always check what is happening in the workshop.

All three employees have filled in the questionnaire. They confirm what the entrepreneur says about the learning processes that take place in the workshop. All three mechanics (chief mechanic, mechanic and apprentice) mention the following methods as occurring often and being effective, i.e. a great deal is learned from them:

- learning new things under the responsibility/through the help of the owner;
- learning by self-study from textbooks of apprentices/handbooks/manuals;
- learning by regular rotation of tasks;
- learning by doing non-routine repairs;
- learning by installing technical modifications an existing cars.

Only on one point is there a difference between the apprentice and the experienced mechanics: the apprentice learns a great deal from his experienced colleagues.

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Case 18: Workshop specialising in Mitsubishi space wagons

After completing his leaving certificate, the entrepreneur joined the main Opel Distributors for Ireland to serve an apprenticeship as a motor mechanic. The distributorship ran a small workshop and training school on the premises. When he went there initially he worked in the warranty department. After completing his apprenticeship in the early seventies, he went to work in the UK for two years and on his return went to work for a small garage. The garage was much the same type and size of operation as the entrepreneur himself has today.

After working abroad for a number of years, also in the car repair sector, the entrepreneur went (in 1985) into a partnership with another mechanic. The partnership went well for about five years, and then during the period 1990-1992 it gradually declined. There was a huge downturn in the market but basically the partnership just ran its term and had to end.

In 1992 the entrepreneur started a new business on his own. He was starting from scratch. It was very tough in the beginning. When he started the business he had a very small amount of money. His wife at that stage had a car of reasonable value and just to give himself a bit of working capital he sold her car and gave her a banger.

That's what I had to do, we both had good cars and I just used them as capital for the business. I had my neck in a noose with the bank for a long time before opening this business and while I have a great relationship with the bank and was never refused any money, I didn't really want to go down that route again, interest rates were very high, money was extremely hard to come by so you cut your cloth according to measure.

The entrepreneur thinks once somebody has been self-employed for a long period it is very difficult to work for somebody else again, you are prepared to sink or swim. When all is going well it is possible to make good money, when things go badly you just have to ride out the storm. You stick a little bit by for when things do go badly. When the entrepreneur opened the business he put in all the hours God sent him to make it work.

When I started here, I got stuck in and did my best to make it work, it has to get easier, but having said that the amount of effort is still the same, you still have to put in your forty four hours a week to make it work. Because of past experience I've made a great effort to keep ahead of all the paperwork. The Value Added Tax (VAT) and Pay Related Social Insurance (PRSI) returns as well as all the other paperwork that has to be completed. I put everything on a computer now so I can look at the figures and I can say yes I'm up a bit from last month or I'm down a bit or whatever way the trend is going. I have information at my fingertips.

The workshop is located '*off the beaten track*'. Within a two-mile radius of the firm there are approximately thirty small independent workshops the same size as this one and eight franchise dealerships all taking work from the local population of the area which has a population of approximately 250,000 people. The majority of his customers who come for general servicing and repair are local, seventy-five percent would come from within a three or four-mile radius. Because he specialises in the sale of space wagons a large proportion of the vehicles he services are from returning customers.

I will do just about anything on a car (type of work) and will work on any make of car, I wouldn't turn something down just because it was some different or unusual make of car. When I get bodywork jobs I negotiate with assessors and I decide who I will sublet the bodywork to. If there's mechanical work we do that ourselves. Bodywork is not a huge part of our business but by the same token it's nice enough if you can get insurance jobs from *time to time. We offer our customers a replacement car service and return their own vehicle after all the body repairs.*

The entrepreneur does not become deeply involved with selling because he feels the margins are too tight: '*it's just not worth the effort, new car customers are price-conscious and a good dealership is beyond my reach at present.*'

After starting again from a failed partnership the entrepreneur has developed a workshop with a large customer base which serves him well. With the addition of the specialist sector of his business (space wagons) he has developed a niche market. When he talks about the success of the business he says

I hang on to my customers, I think it's just something you learn as you go along, it's easier to hold on to existing customers than to replace them. Some people could go on high-flying training courses dealing with marketing or selling your business. I think at the level I'm operating at it's personal contact and good customer relations. Doing your best for your customers and keeping them informed makes all the difference. I find if you're a people sort of person and can get on with people, if you just make a little bit of extra effort they'll come back to you time and time again. I don't think I have lost many customers over the years, I tend to hang on to them, give them what they want. For instance, if I give customers a warranty when I sell them a car and a problem occurs with the vehicle when it's a couple of months out of warranty I don't fight with them over that, I come to some arrangement, I pay for the parts they pay for the labour, or something like that.

The entrepreneur, being the only mechanic, believes that keeping up to date is essential. Having received excellent training during his apprenticeship he has gained vast experience since then.

There's very little new under the sun. I think there's a lot of new developments in the field of electronics and engine management systems, but far from making the mechanic's job more difficult I think it is making it a lot easier. If you look at, for argument's sake, older cars, they had points in them. If the car broke down the first thing you looked at was the points. With electronic ignition systems they hardly ever cause problems.

The entrepreneur learns a lot of the customers. He finds their descriptions of problems enhances his informal learning. If a customer can describe accurately a problem which he experienced before it can save considerable time in diagnosing what the problem is. The local dealers also play an important role.

I've a lot of good contacts in the trade, if I come across a particular problem or if there is some unusual development, the distributors will fax me the workshop specifications on that area or they'll lend me the workshop manual. The majority of the cars I service would be three to five years old or older so this does not present a problem to them. At dealer level there is certainly no resentment, most of the guys I deal with in the motor trade are extremely helpful, I couldn't praise them enough.

The entrepreneur explains how the new multimedia technologies greatly assist him in keeping pace with engineering technology and repair techniques.

Because occasionally I come across something really unusual, I've started using something this year which has worked very well for me. I've started using a group on the Internet called rec.auto.tec. It's a usenet group. Basically it's like a bulletin board, people post problems about motor cars and others respond to the problems. The response you get is absolutely *amazing. Rec.auto.tec. is a single news group in a part of the Internet called the Usenet, in the Usenet there are Web browsers and Usenet usegroups as they call them. I read them on a daily basis.*

I was corresponding with a mechanic in California two days ago. He posted a query on the Usenet, he wanted to get the ignition barrel out of a Mercedes 240, the key was sticking in it every so often, he could not figure out how to remove it. I had removed a number of them, and I explained to him what to do. I posted it back to him, he had it seconds later, he mailed me back the next day saying thanks very much. I had a problem with a B.M.W. It had front-end shimmy, it was castor wobble, nobody could help me with the problem I had it put on all the latest computerised alignment machines, it checked out grand but it was not right. B.M.W. did not know anything about it, the franchised dealer could not help. I posted an item on the usenet, there were 17 replies within 24 hours. The majority of people knew what the problem, replying yes I had a similar car and I solved the problem in this manner, it's fabulous and very exciting you know. I'm a techno-freak and it assists me a lot in my business. I love all the latest gadgets.

The entrepreneur feels at the moment he has developed the business just about as far as he can go. From a space point of view he has built up his stock from one car when he started to his present position were he carries a stock of between 15 to 20 cars at any time. The development of the workshop has gone as far as it can using the present premises. So to achieve further growth he has to change premises and employ staff. He is finding out about his options right now.

2.6 Non-franchised workshops without specialisation

The last three case studies we are going to present are very small non-franchised workshops. All three workshops are fighting for survival. They have one characteristic in common. They are operating in an environment where a lot of the same car repair shops are established and they do not have clear competitive advantages to distinguish them from the numerous competitors.

Figure 2.11 - Characteristics of three marginal non-franchised workshops

		case 19	**case 20**	**case 21**
1.	Country	Gr.	Sp.	Sp.
2a.	Age of firm	1965	1990	
2b.	Under current management	1965	1990	
3.	Repair activities	80% mechanical, 20% electrical	mechanical & electrical	
4.	Total workforce	owner, sometimes assisted by his son	owner, apprentice	
5.	Number of similar competitors	very many	very many	
6.	Initial vocational education of entrepreneur	mechanical engineer	no formal education, for this profession	
7.	Courses	none	limited (at the weekends)	
8.	Learning by doing	mainly by problem solving		

Case 19: More craftsman than entrepreneur

The owner started this firm in 1965. He has a mechanical engineering education. Since 1983 he has been the only permanent member of staff in the workshop. His young son, a student at secondary school, works as a part-timer, in his free time and on Saturdays.

All independent workshops work on Saturdays, especially those in which the owner works on his own.

Most of the repairs in the workshop represent mechanical work (80%), while the rest (20%) represent electrical engineering work. According to the owner 40% of the repaired cars have modern catalyst technology and the remaining 60% of the repairs are on conventional technology cars.

The number of car repairs has decreased over the last few years and so has the turnover of the workshop. It is obvious that the owner is aware of the difficult situation that an independent workshop like his faces due to the modern technology that new cars are equipped with. In his struggle for survival he is trying to follow the technological evolution. The introduction of the catalyst technology has changed things drastically. New models brought new diagnostic units which in turn, brought specialisation into daily practice:

I still cannot cope with the idea that there is such a vast variety of different diagnostic units for each and every model. This absolute specialisation of diagnostic equipment and tools, which is deliberately imposed from the manufacturers, causes a big problem. But I do believe that in the future this will change and there will be common standards for various models.

It would be of vital importance to have a unique diagnostic unit, which will properly check more or less all the different models of cars, but such a thing does not exist yet. It is totally meaningless for me to buy modules for two or three different car makes and the corresponding variety of models. There are independent providers for almost all car types, but I think that no one can afford it. The most important thing would be to have a diagnostic unit able to check all catalyst models. Today, I can only check the engine of such cars and not their ECU unit. If a special check of the ECU unit is needed, I am - unfortunately - obliged to cooperate with a franchised workshop.

It seems that there is neither the space nor the capability for any future change in the workshop. The owner is counting on his son a great deal for the future existence of the workshop, but he says that the future of his son comes before that of his workshop. He is not sure whether it would be good for his son to take over the management of the workshop, when there is still a long way to go with his studies.

As the owner is working on his own he performs all the tasks in the workshop. He is in fact a self-employed worker, oriented more towards the craftsmanship than the entrepreneurship.

The customer who comes here for years trusts me completely. I can buy the spare parts for the repair of his car on his behalf, and he can always be sure that when he comes to get his car that I have done exactly what we have agreed upon before the repair. The customer always leaves satisfied. There are no returns of cars. Returns due to customers' complaints happen once every ten years. I try always to do my best, because only the best is good enough. I would feel humiliated if I had to repair a car that was not repaired properly the first *time. This is an internal necessity. What I ask from my customers for is time, I do not work under pressure. If I have to, I can stay until midnight to finish the day's repairs, but I want to do it calmly. I always repair the customers' cars as if they were mine.*

In the past, there were some apprentices working in the shop, as well as some mechanics, but never on a permanent full-time basis. According to the owner it is difficult to recruit people and even more difficult to keep good technicians, since the money repairs make in independent workshops is too low and, consequently, the wages that can be paid to employees are also low...

It is not possible to recruit clever, competent and qualified people who would accept working in rather dirty conditions and without good wages. It is difficult to keep a good mechanic by providing incentives. Especially for Greece, I am aware of cases where owners of workshops have made their best mechanic their partner in the workshop, with disastrous consequences for themselves, since the new partner has finally taken over the workshop and thrown the previous owner out. Due to the very small turnover of the independent micros, it is not possible to give technicians any other incentive than partnership, with a high percentage since 3-5% is more like a tip. I have tried to work with apprentices in the past, but I was deeply disappointed. I do know, though, the case of a friend who has hired a German technician who lives in Greece after his marriage to a Greek lady. My friend has trained that man in order to become his successor in the workshop and the whole thing worked fine. But this is the exception that proves the rule. Such cases are more than rare. Most of the workers cause damage, 10% due to their stupidity and 90% on purpose, in order to get back at their bosses for the low wages they are paid. There is an enormous problem of lack of trust.

The owner believes that without training it is not possible to keep up with developments in such a fast-moving environment.

Whoever does not learn to deal with catalysts along with conventional cars, will, unfortunately close.

He has followed a number of courses on catalyst technology soon after the first catalyst car was sold in Greece. He feels his general knowledge on this subject is sufficient, but he really does need more information, knowledge and training on new models of cars. This knowledge is not easy to obtain due to the policy of the manufacturers and their representatives...

At the beginning it was very difficult for our independent workshop to find new catalyst cars to repair. Although we had studied catalysts a lot, we were facing problems in getting practice on actual cases. I had to attend private seminars on injection and ignition systems to fill the gap. This has partly to do with the lack of confidence that existed in whether we could cope with this new technology. But, after a short period, more car owners were forced to leave the franchised workshops due to the high prices, and came to us. This resulted in an increasing number of catalyst car repairs, which has given me the opportunity to obtain the practice that I was missing. Now I have enough knowledge of catalyst technology, but what I really need is the information on new models. The authorised workshop, following the directions of the importer-distributor, will never release information or technical manuals on catalyst models. This is something that I am obliged to oppose both as an owner of an *independent workshop and as the president of the Association of Diagnostic Centres of Athens. I would also like to protest against the pressure that the importers-distributors impose on their customers, forcing them not to go to independent workshops even to change the lubricants in their cars, in order not to lose the warranty for their vehicles.*

To overcome such difficulties, but also the lack of information that exists on new models, the owner thinks that it would be very useful to build up a large database with technical information which should be accessible by anyone (even via the Internet). He thinks, though, that even this would not be sufficient.

No matter how many times you see the diagnosis and the repair of a new model on video or even in manuals and CD-ROM it is not enough. You have to see it in practice from someone who has done it before. But this is something that the manufacturer should do.

The difficulty with courses is that the entrepreneur can only attend a seminar at weekends. It is obvious that although the entrepreneur is aware of the fact that training is of high importance, his struggle for survival is equally tough and demanding. However, this is just one of the reasons why he prefers learning in practice, working on the car...

Seminars are good, but it is of vital importance to have the 3D picture, the actual thing, i.e. the car or the model of the engine to study with. I think that manuals are too poor to help and the contacts with the providers of our equipment have not helped much, since they have also been learning along with us.

He illustrates this with the following example...

We have transformed our pick-up by replacing its engine with that of another make! We have been facing tremendous difficulties, mainly due to the inventions we had to think of in order to make the various parts of the engine fit with the body of the engine compartment. We were working on it for several weeks, during our free time, but have finally learned a lot and, in addition, we have a pick-up that works much better than before.

Case 20: More self-employed worker than entrepreneur

The owner started this firm six years ago after having worked some 25 years in different authorised workshops/dealerships. There are two persons working in the firm: the owner himself and an apprentice.

The workshop is devoted to mechanical and electrical repairs only, but they carry out all types of maintenance activities. They cannot do electronic systems repairs because they lack specific equipment and know-how. They service low and mid-range cars. Luxury cars hardly ever come into this workshop.

The competitiveness strategy of the workshop is based on the prices of the services, which are much lower than in authorised workshops, and on the personal treatment of customers. The contacts established in previous jobs were fundamental to starting the workshop six years ago.

I have always worked in this town. So I know so many people that when they found out I was leaving, they came to my repair shop... And the best customers are those who say: Hey! Juanito does it well. And that is a way of attracting customers.

The firm does not have problems regarding customers at the moment. They have a sufficient volume of work, which does not permit the owner to go on holidays during the year. However, this is at the same time an indication of the company's precarious situation. The repair shop does not yield such a profit to enable the manager to close it for a period of weeks.

Due to the scarce financial resources the repair shop does not have the most advanced technology. The owner is aware that he may face competitiveness problems because of his small capacity for investing in new technology.

I always have the same customers, except for some sporadic customers who drop in. Some leave because they have bought a new car. So I don't have casual customers, nearly always the regular ones.

It is not, it is not that they are leaving (the customers), no... at the moment I don't see that they are leaving, their number remains more or less the same. What I see is that others (customers), of the new generation, may not come.

Large repair shops do everything they can so that their customers don't leave. Then what happens in the long term is that those who close up, either for retirement or because they cannot afford to continue with the repair shop, - they are not going to open more repair shops again - then we are going to disappear with the passing of the years because we can't cope with new technologies, because of the money necessary for such an investment.

The owner is rather sceptical about the future. He fears that the sharp drop in repairs and maintenance work - due to the replacement of old cars by new ones of a much better quality - will continue. Emphasis will shift from repair work to maintenance work...

Cars are newer, which means a smaller number of workers are required... All this means that visits to repair shops are much better placed. Traditionally it was the workforce that was the most valuable, because anything you did, you did it manually... it was more manual. Now it is becoming more and more technical, requiring quite high investments. They now sell tapes; you play them and, more or less, they tell you about the battery test, in order to check it here. But there is one tape for each vehicle, for each make: Renault, Nissan, Seat and so on... And each one costs a lot of money.

On the other hand the owner fears the competition of the new repair shops specialising in a type of spare parts, e.g. exhaust pipes. They are organised in large chains so that it is cheaper for customers to replace parts than buy the part in question from independent repair shops, despite having a 10% discount.

These hypermarkets, if they can, they bring down prices. Obviously, they already buy stacks of exhaust pipes and brakes. Then they cut prices and charge knock-down prices. Certainly, we have been very lucky, no hypermarkets have been set up in the area so far. But when they come, more than one of us are going to drop out of the market.

The owner does not have a vocational training certificate corresponding to the current formal educational system in Spain. In his own opinion his wide professional experience is equivalent to vocational education.

I have vocational training. I have worked as a mobile unit technician, industrial technician... We acquired experience by working with makes. Working in Renault, in Morris, in SEAT.

After becoming self-employed he has taken some courses, no longer organised by car-manufacturers but by official institutes like the Gremi de reparadors d'automobils (Guild of car workshop and body workshops) of Barcelona. Over the last years he has no longer had time to participate in any of these courses.

If I have to go to Barcelona or Madrid, it is virtually impossible for me to do it.

The apprentice has completed primary school basic education and has participated in the training courses provided by a local training centre for an 8-month period. He has now been working for four years in this firm and he no longer considers himself an apprentice, but a mechanic. Since he began to work here he has not participated in any more courses, despite the fact that there are many opportunities offered by the Gremi. The main obstacles are the distance to the training institute, the volume of work, the economical situation of the firm and the lack of motivation on the part of the employee.

The division of work between the owner and the employee is marked by the tutor-apprentice line. One could not speak of a line of functional or organisational division of work. For the most part, both of them deal with the same tasks, but the owner always takes repairs of greater difficulty from the start. He leaves in the hands of the 'apprentice' routine repairs and those that the 'apprentice' knows how to do on his own - according to the owner's criteria. Nevertheless, the owner always supervises the final result.

I tell him: you should take this out. And he does it. And for things that he has already done, I tell him if he has really done it, if he has done them once before. Or else, I explain it to him and check if he is really doing it as I have told him. Otherwise, I tell him again. And then I supervise it.

It is a hierarchical type of training due to the nature of the tutor-student relationship between the manager and his employee. It is therefore not surprising to find that 'learning under the responsibility of the boss', which also includes 'learning by carrying out jobs with a growing degree of difficulty' and 'solving problems', is very valuable for the apprentice and he demands more training of this type. He uses almost no form of learning except `self-study through video tapes', provided to him by the owner, and 'car repairs in his free time'. But none of the forms of learning that include external relationships of the repair shop are useful to him and he does not ask for them.

In the specific context of this repair shop, the ways in which the owner learns are very interesting. As he can no longer attend short training courses, manuals are the most important way for him to update his know-how.

What I have to do now is to read the books. As you work, on the basis of daily techniques and practice is how you update your knowledge with the help of the books. If there is a problem, with some checks and your experience, you can get by.

Another form of learning is when difficult solution problems emerge. Then if he cannot solve them without help, he refers to the make repair shops located in the same town. There they point out to him possible ways of solving the problem concerned.

Also, I have friendly relations with make repair shops here in town. If one day I have a serious problem with the car of one of my customers, I go to the make repair shop and say to them: Look, I have a problem. And as I have good relationships here - I am highly regarded -, they practically offer me their services.

So I have direct information from makes. When I go there and I request help about a problem they let me ..., they tell me how I have to look for it. ... They give me advice about faults. And the experience about all these faults is filed away in your brain, after all those years of experience.

These relationships with other repair shops are exclusively available to the owner. When the mechanic-apprentice is faced with serious problems, he passes them on to the owner, but he does not himself have access to relationships with other repair shops.

The status as a non-franchised repair shop restricts access to training courses organised by car manufacturers. That is why the owner replaced these courses at the beginning of his entrepreneurship with courses provided by official training institutions. Due to lack of time he has replaced learning by courses with other means. Studying manuals is very important for him. At least as important, however, are his relationships with other repair shops, for instance authorised workshops where he has worked previously. They help him solve difficult problems and in doing so update his know-how.

3. Results and conclusions

3.0 Introduction

Enterprises, both small firms and big businesses, operate in a rapidly changing environment. Entrepreneurs have to respond to - or better - anticipate these changes in order to maintain or improve the competitive strength of their firms. This makes great demands on the entrepreneurs, particularly on small business owners, since they mostly have to make do without specialized staff departments.

How do small entrepreneurs cope with this? What kind of strategies do they apply in order to maintain or improve their market position? What choices do they make regarding product/market combinations and regarding the organization of work? How do they keep their own skills and competencies and those of their staff up to date?

In this study we have investigated these questions in 21 firms in four countries: Ireland, Greece, Spain and The Netherlands.

In Chapter 2 we have given a detailed description of each of these 21 micro car firms. It is commonly known that the car repair and distribution sector is highly fragmented. Our sample of 21 car firms illustrates - see also Figure 3.1 - that even within the category of micro car repair firms there is a wide variety of firms. Some firms are of the 'self-employed' type: the workforce consists only of the entrepreneur himself and one or two family members. In other firms, the owner is also a small employer. Furthermore, in our sample there are franchised and non-franchised car firms. Some firms have already been in operation for more than half a century, while other firms have started up recently. There is also a wide variety of modes of strategic positioning and levels of business success. Very relevant for the purposes of this study are the differences regarding the organization of work and regarding continuing vocational training activities and incidental learning opportunities and methods. In Chapter 2 we have described in detail the relations between market position, work organization and training in the 21 car firms.

In this chapter we will apply a more analytical perspective and formulate the main results and conclusions of this study from a more abstract, summarizing point of use. We will start, however, with some information concerning the significance of small firms in the European Union and some characteristics of the car repair sector in the four countries involved in this study.

Figure 3.1 - Typology of the 21 micro car repair firms in this study

			country	type	year of establishment	employees		development of staff members
						total	in workshop	
I	FRANCHISED							
A.	*Components (specialists) dealerships*	1	Sp.	Lucas + Bosch dealer	1970	4	3	-
		2	Neth.	Bosch dealer	1965	7	5	+
		3	Ire.	former Lucas dealer	1934	8	4	-
B.	*Make dealerships*	4	Neth.	SEAT dealer	1993	4	2	+
		5	Ire.	SKODA dealer	1991	4	2	+
		6	Ire.	PEUGEOT dealer	1985	8	4	+
		7	Ire.	NISSAN dealer	1984	18	7	+
		8	Neth.	DAEWOO dealer	1967	11	6	+
C.	*Authorized workshops*	9	Gr.	KIA workshop	1973	5	3	+
		10	Ire.	PEUGEOT workshop	1984	8	6	+
		11	Gr.	ROVER workshop	1932	15	11	+
II	NON FRANCHISED							
D.	*Workshops with a strategic concept*	12	Gr.	non-authorized ALFA ROMEO workshop	1973	9	7	+
		13	Neth.	mobility concept firm	1983	12	5	+
		14	Neth.	full-service concept workshop	1984	6	4	+
E.	*Workshops with some specialization*	15	Sp.	workshop with CITROEN specialization	1956	6	4	0
		16	Sp.	workshop, spec. in Iveco lorries	1990	5	5	0
		17	Gr.	workshop, spec. in Opel diesel	1982	4	4	0
		18	Ire.	workshop, spec. in Mitsubishi space-wagons	1992	2	2	+
F.	*Workshops without specialization*	19	Gr.	workshop	1965	1	1	-
		20	Sp.	workshop	1990	2	2	0
		21	Sp.	body workshop	1983	3	2	-

3.1 Characteristics of the car repair sector in the four countries

Significance of micro enterprises in the European Union

Of the 17 500 000 enterprises in the European Union, the majority (93%) are of the micro enterprise type, employing less than 10 employees. On average, an enterprise in the European Union provides employment for 6 persons, but this figure ranges from 3 in Finland and Greece to 13 in Austria. In the four countries involved in this study the figure ranges from 3 to 11 (see Figure 3.2).

Figure 3.2 - Number of enterprises and average enterprise size in the 4 EU countries involved in this study

	Greece	Spain	Ireland	Netherlands
A. All sectors				
• number of enterprises	690 000	2 200 000	130 000	390 000
• average enterprise size	3	5	9	11
B. Car repair and sales sector				
• number of enterprises	17 800	52 000	2 500	12 000
• average enterprise size	4	4	5	6

Source: ENSR, 1996; Rauner et al., 1993.

Differences in motor vehicle density and in motor vehicles per mechanic

Regarding the car sector, Rauner et al. (1993) have allocated the EU Member States to four groups on the basis of two criteria (see Figure 3.3):

- car density per inhabitant, and
- cars per person employed in the car repair and sales sector.

The four EU countries involved in this study are allocated by them to different groups. According to them, Sector II has the most favourable conditions for the stable development of its labour market. Should the clear trend towards an increase in motor vehicle density prevail, this will result in an increase in the number of people employed and, to a lesser extent, in higher productivity rates in repair shops, as this is already relatively high. Sector II will undergo the most comprehensive structural changes with an increase in motor vehicle density. The expected structural change in Sector IV is marked by a change in the composition of the car fleet and an overall increase in vehicle numbers, accompanied by a decrease in employment in the motor vehicle sector. The structural change in Sector I is the lowest by comparison. The number of people employed will probably fall slightly. This is due to an improvement in the quality of motor vehicles and to longer servicing intervals. Given the saturation of the motor vehicle market in Sector I, there is only a need for replacement. Sector III contains those countries most likely to experience a clear decrease in the number of persons employed in the motor vehicle sector in the long run. On the basis of this analysis we can conclude that the *prospects for car repair workshops* in Ireland are much better than in Spain.

Figure 3.3 - Classification of the EU Member States (in 1993) into four groups according to motor vehicle and employment density (1991)

	Motor vehicle density (per inhabitant)	
	high	**low**
	group I	*group II*
high number of motor vehicles per person employed in car repair & sales sector	Germany Netherlands Belgium Italy	Ireland
	group III	*group IV*
low number of motor vehicles per person employed in car repair & sales sector	Denmark Luxembourg France Spain United Kingdom	Greece Portugal

Source: Rauner et al., 1993.

Other important differences

Other differences between the four countries involved in this study have to do with:

a. *The average age of cars.* In Ireland and in particular in Spain and Greece many cars are of an older age. In all three countries there is a government programme in operation which subsidizes the purchase of a new car in exchange for an old car.

b. *Initial vocational education.* In The Netherlands there is a well developed system of initial vocational education for the car sector. The same applies to Ireland. In Greece there has been a system of initial vocational education since 1985, but this system is not comparable with the Dutch system. In Spain, until the nineties there was no planned vocational training or a cultural basis for moving towards the promotion of professionalism, as manifested in the disappearance of the apprenticeship in the late seventies, which put at risk the professional character of car repair workshops throughout the nineties.

c. *Type of repair workshops.* The average share of manufacturers' subsidiaries and authorized workshops and dealers in EU Member States is high. More than 60 percent of the workshops are linked to a manufacture or importer except for Portugal, Greece and Spain, which have a share of more than 80 percent of independent workshops (Rauner et al., 1993).

3.2 Innovations, adaptation and transition processes in the car repair sector

Innovations in the car repair sector

Technology has changed cars as well as car repair workshops. From the perspective of product technology, the motor vehicle sector at present is characterized by rapid product innovation and a rapid increase in the range of products. Motor vehicles are becoming more safe, more economical, more comfortable and more environmentally friendly. New models are qualitatively superior to their predecessors. They have a longer life expectancy and require less maintenance and often have a wide range of accessories and technical equipment to increase driving comfort, limit pollution and to save on raw materials. They offer both active and passive safety (Rauner et al., 1993). Warmerdam (1993) states that these innovations are to be found mainly in four areas:

- in the field of engineering/construction technology;
- in the field of materials technology;
- in the field of (traditional) motor vehicle electronics;
- through the introduction of micro-electronics and motor vehicle information systems.

Consequences for workshops and mechanics

According to Warmerdam, the latter trend, the marked increase in micro electronic control systems in the motor vehicle, has a major influence on workplaces and skill requirements in the motor vehicle repair trade. With the aid of electronics, which is becoming increasingly common in motor vehicles, computer-controlled testing and diagnostic equipment for engine management systems or laser testing equipment for vehicle measurement are changing the work in the car repair firms and hence the work of motor-vehicle mechanics.

The most important consequences of the technological innovations in cars and in the car repair workshops are:

- decrease in the average maintenance tasks per car;
- shift from repair tasks to maintenance and service;
- shift from repair work to changing parts;
- shift from repair work to diagnosis;
- increase in investments in workshop equipment, in particular as a consequence of the introduction of ever more modern computerized testing and diagnostic equipment.

Adaptation and transition processes in micro car firms

The last point in particular, the increasing costs of workshop equipment, puts micro car firms in a difficult position. The necessary investments in the different tools and equipment can only be made to yield a profit if they are used intensively. This means that the firm has to attract more customers and has to hire more staff, i.e. the firm has to grow. This phenomenon is known as the 'grow or die' dilemma. Threshold costs and critical size of turnover are important concepts in explaining the phenomenon of enlargement of scale and the differences in this respect between sectors. In some sectors it is possible to start a business and stay in business without making heavy investments in premises and equipment. Nowadays people can start their business in the service sector with little more than a personal computer. There are also sectors where the situation is quite different. The car sales and car repair sector is a good example of this. Maintaining the full service concept requires enormous investments.

The owner of the authorized Rover workshop (case 11) gives a good example of this. He has always tried to follow the technological progress of vehicles. His workshop has always been equipped with modern machinery and is currently fully computerized. There is a full database containing all vehicle repairs since 1989, and continuous revamping of the equipment occurs. But he clearly states that maintaining the full service concept these days is not an easy business:

In the next few days our new straightening unit will arrive (the fifth in a row). We have also twice changed the suspension control unit, three times the brakes measuring unit and so on. As car technology evolves we have to evolve with it. It is the car itself that demands these changes. Our diagnostic unit has changed six times so far and I dare say that it has always expanded with new modules, i.e. it keeps expanding constantly. Unfortunately, from a particular point on, a repair business becomes non-profitable, because investment costs are extremely high.

Micro car firms can try to combine the advantages of the full service concept - which is very attractive for most customers - with lower investment costs in equipment by gradual specialization in a *network* of car repair firms. In the Spanish report a comparison is made with the health system, with family doctors and specialists. The point here is the specialization of firms in conjunction with the division of work between firms. Regarding diesel engines and bodywork, this specialization already has a long history. Now, with the massive introduction of electronics into cars, this division of labour between car repair shops has been expanded to these tasks too. It seems that these developments even provide opportunities for a new kind of car firm: the diagnostic car centre.

Two main strategies: growth and/or specialization in networks

Figure 3.4 shows that both strategies - the growth strategy and the specialization strategy - are present in the 21 micro firms involved in this study. At the same time this figure clearly demonstrates that the growth strategy is more common in franchised car firms and that the specialization strategy is predominant in the non-franchised car firms. Some of the non-franchised car repair firms (cases 16, 19 and 20) are 'specializing' exclusively in

Figure 3.4 - Adaptation and transition processes in the last 10-15 years in the 21 micro car firms

		Country	developments in last 10-15 years
I Franchised			
A	*Component (specialists) dealership*	1. Sp.	• little changes; difficult to keep equipment up to date because this requires high investments
		2. Neth.	• developing a new car-electrics department since 1990 when a new car electrician was recruited
		3. Ire.	• uncertainty about Lucas dealership; further specialization of firm in car electrics
B	*Make dealerships*	4. Neth.	• newly started SEAT dealership because this offers better future prospects than a non-franchised start
		5. Ire.	• in 1994 transition from non-franchised to SKODA dealership to generate more growth prospects
		6. Ire.	• transition from non-franchised to Peugeot dealership in 1993 to generate support for further growth
		7. Ire.	• transition of workshop from after-sales service to profit centre; development towards total quality service
		8. Neth.	• transition from low-tech cars to high-tech cars; children are joining management of firm
C	*Authorized workshop*	9. Gr.	• transition from non-franchised to authorized KIA workshops in 1993; plans to become integrated KIA dealership
		10. Ire.	• sons took over in early 1990's and are converting workshop from family firm into business
		11. Gr.	• son has taken over; dependency on car manufacturer is experienced increasingly as a problem
II Non-franchised			
D	*Workshops with a strategic concept*	12. Gr.	• transition from authorized ALFA-Romeo workshop to non-franchised; re-establishing position
		13. Neth.	• transition to total mobility concept
		14. Neth.	• transition to full service concept
E	*Workshops with some specialization*	15. Sp.	• son has taken over; 35% of turnover in Citroen cars; combating the negative consequences of the RENOVE plan; competing on personal treatment of customers and permanent training of mechanics
		16. Sp.	• specializing in IVECO lorries and four-wheel vehicles and, in particular, in mechanical repairs
		17. Gr.	• specializing in OPEL cars, in particular diesel-engined OPEL cars; the entrepreneur as trainer and coach
		18. Ire.	• newly started workshop, specializing in Mitsubishi space-wagons
F	*Workshops without specialization*	19. Gr.	• almost only mechanical repairs
		20. Sp.	• only mechanical repairs problems to attract new customers/cars
		21. Sp.	• body workshop; decrease in staff

mechanical repairs. The question is, however, whether they can stand the competition of new formulas such as the 'Quick Fit' chain in the long term.

The adaptation process in relation to new technological developments in cars and workshop equipment is not only a matter of being able to invest in new equipment. It is also a matter of skills and competencies. Before discussing in more detail the strategies of the micro entrepreneurs and the adaptation processes in the 21 firms involved in this study, we will pay attention to the vocational education and training of the people working in these firms.

3.3 Initial and continuing vocational training

In this study the focus is on the relationship between the organization of work in micro car repair firms on the one hand and the skills and skills development of the mechanics and technicians working in these firms on the other.

Relationship between initial and continuing training

We have studied this relationship in 21 micro car repair firms, by means of oral interviews with the entrepreneur and written questionnaires for the mechanics and technicians. A total of 60 employees filled in the questionnaire. In the interviews as well as in the questionnaires, most attention has been given to continuing vocational training and other forms of learning by employees. But we also gathered data about *initial* vocational education because, as has been pointed out (see for instance Rauner et al., 1993), there is a clear relationship between the participation of employees in continuing vocational training and their initial vocational education.

This is also the case in our sample of 60 motor vehicle mechanics, as Figures 3.5 and 3.6 show. Of the 43 mechanics with initial training for the car sector all, except of course the apprentices, have participated in courses. They all (100%) state that participating in these courses was very useful to them. Some of them note that they really need follow-up courses on specific subjects. Of the 17 mechanics who do not have any initial vocational education, 10 (59%) participated in continuing training. Of these 17 mechanics, only 7 (41%) emphasize that they learned a great deal by participating in these courses.

Figure 3.5 - Vocational training of employees in 21 micro car firms, broken down by country

	Greece	**Ireland**	**Spain**	**Netherlands**	**total**
• no (initial and/or continuing) vocational training	3	0	4	0	7
• only continuing vocational training	3	1	16**	0	10
• only initial vocational training	1	2 *	0	3 *	6
• initial and continuing vocational training	8	15	2	12	37
• total	15	18	12	15	60

* apprentices

** Of these 6, three mechanics mention that they did not learn much from these courses.

Differences in the four countries

At the same time, Figure 3.5 reflects the differences in the initial vocational training systems in the four countries involved in this study. In Ireland and The Netherlands the continuing vocational training in the car sector is confronted with employees who to a large extent have taken part in initial training in the form of alternance between company and school. In Greece, continuing vocational training initiatives face a work force where a large proportion of the employees, especially the older ones, have not undergone any initial vocational training due to the fact that formal initial vocational training did not exist prior to 1985 and another group of employees have a rather outdated and poor theoretical background. In Spain, up to the nineties there was no planned vocational training nor a cultural background for a move towards the promotion of professionalization, which jeopardized the professional character of car repair workshops. In 1990 Spain introduced a new form of initial vocational training which aims to develop basic knowledge and basic qualifications for occupations in the car sales and car repair sector. However, it is stated in the Spanish report that the importance of these reforms should not be overrated. On the one hand, the impact of such reforms in the educational system cannot be assessed because from 1992 to the present time there has only been experience with experimental modules and the real reform will be undertaken from 1996 onwards. On the other hand, the alternative ways - reflecting characteristics of the German dual system - to initial training in the sector have only recently been introduced and have therefore not had any significant repercussions in the sector so far.

This is confirmed by the employees in the five Spanish car firms who cooperated in this research. Only one of them, working in the position of foreman, has had initial vocational education for this trade.

Training and specialization

Among the 21 car firms there are 3 workshops (cases 16, 19 and 20) which are completely or largely "specialized" in mechanical repairs only. Figure 3.6 shows that there is hardly any participation in vocational training in these firms. Two firms (cases 19 and 20) are of the self-employed type. The owners emphasize that they cannot afford the time to participate in courses during working hours. The owner of firm 16 can be characterized as a small employer. His employees hardly ever participate in courses, in spite of the fact that they do have access to courses offered by Iveco and other training agencies. It is very likely that the owner's negative opinion about the effectiveness of continuing vocational training plays a significant role here. What bothers the owner of this workshop in particular is the low theoretical level of the courses in which he himself has participated. According to him, they do not explain how things work but only how a specific problem could be solved in a specific part of the engine. As a result of this lack of abstraction the mechanics only learn to apply tricks, whereas they should be learning how to solve problems.

Figure 3.6 - Initial and continuing vocational training of workshop staff

			country	**type**	**employees total**	**in work-shop**	**initial vocational education car sector**	**participation in CVT in recent years**
I	**FRANCHISED**							
A.	*Components (specialists) dealerships*	1	Sp.	Lucas + Bosch dealer	4	3	nobody	yes, all mechanics
		2	Neth.	Bosch dealer	7	5	yes, all	yes, all
		3	Ire.	former Lucas dealer	8	4	yes, all	no, no longer
B.	*Make dealerships*	4	Neth.	SEAT dealer	4	2	yes, all	yes, foreman
		5	Ire.	SKODA dealer	4	2	yes, all	not yet
		6	Ire.	PEUGEOT dealer	8	4	yes, all	yes, all
		7	Ire.	NISSAN dealer	18	7	yes, almost all	yes, all
		8	Neth.	DAEWOO dealer	11	6	yes, all	yes, most mechanics
C.	*Authorized workshops*	9	Gr.	KIA-workshop	5	3	yes, almost all	yes, all
		10	Ire.	PEUGEOT workshop	8	6	yes, almost all	yes, all
		11	Gr.	ROVER workshop	15	11	yes, all	yes, but not all
II	**NON FRANCHISED**							
D.	*Workshops with a strategic concept*	12	Gr.	non-authorized ALFA ROMEO workshop	9	7	yes, almost all	yes, most mechanics
		13	Neth.	mobility concept firm	12	5	yes, all	yes, all
		14	Neth.	full-service concept workshop	6	4	yes, all	yes, all
E.	*Workshops with some specialization*	15	Sp.	workshop with CITROEN specialization	6	4	only foreman	yes, all
		16	Sp.	workshop, spec. in Iveco lorries	5	5	nobody	hardly any**
		17	Gr.	workshop, spec. in Opel diesel	4	4	nobody	only entrepreneur
		18	Ire.	workshop, spec. in Mitsubishi space-wagons	2	2	yes, all	yes, all
F.	*Workshops without specialization*	19	Gr.	workshop	1	1	nobody	very limited
		20	Sp.	workshop	2	2	nobody	hardly**
		21	Sp.	body workshop	3	2	nobody	very limited

* There are people working in this workshop: the foreman and an apprentice.

** Mechanics who did participate in courses explicitly mention that they did not learn much from it.

3.4 Incidental learning

As well as initial and continuing vocational training, other forms of learning play an important role in the process of keeping the available qualifications of staff up to date. Earlier research in small enterprises has shown that learning processes here are organized in a different way than in big firms and that many incidental learning methods play an important role in most small enterprises. The concept of 'informal learning', mostly used in this context, is a misleading term. We prefer to speak of incidental learning because basically it is learning by using the available opportunities within normal daily work. In fact it includes informal as well as formal methods. Sometimes the learning process takes place in a structured and sometimes in an unstructured way.

Variety of methods

In the questionnaires, we asked the employees to fill in, we enumerated 25 methods of incidental learning (see Figure 3.7). The top five most common methods of incidental learning are as follows:

- learning by solving problems by oneself;
- learning how to solve problems together with colleagues;
- learning by regular rotation of tasks through which skills can be kept up to date;
- learning new things under the responsibility of the boss or an experienced mechanic;
- learning new things through the help of an experienced mechanic.

Other methods of incidental learning such as visits to trade fairs and other repair workshops are only applicable to a minority of the mechanics in the micro car firms studied. Half of the mechanics questioned state that they would like to have (more) opportunities to participate in excursions and to visit trade fairs. In fact, for all 25 methods of incidental learning, a quarter to half of the 60 mechanics state that they would like more opportunities to learn in such a way.

Effectiveness

An important question of course is how much the mechanics learn from the different methods of incidental learning, summed up in Figure 3.7. According to the mechanics the following methods are very effective in the sense that they learn a lot from them:

- learning by doing non-routine repairs;
- learning by doing work with a growing degree of difficulty;
- learning by asking for help or advice from the senior mechanic;
- learning through explanations given by experts or experienced people.

The first two methods of incidental learning in particular, that is to say the opportunities for mechanics to improve their competencies and skills in these ways, have to do with the organization of work in the car repair firm. These outcomes demonstrate that the opportunities and possibilities for employees to update their skills and to develop (new) skills are closely related to the way the work in the firm is organized.

Figure 3.7 - Learning on and through the work (methods of incidental learning)

		1. Occurs:				**2. effect-iveness***
	Method/form of learning:	**often**	**now and then**	**almost never**	**total (N=100%)**	
1	learning new things under the responsibility of the boss or an experienced mechanic	39%	34%	27%	56	63%
2	learning new things through the help of an experienced mechanic	39%	33%	28%	57	67%
3	learning by doing work with a growing degree of difficulty	36%	45%	20%	56	82%
4	learning by using handbooks, manuals, etc.	32%	56%	12%	57	47%
5	learning by asking for help/advice from senior mechanic	29%	36%	35%	55	80%
6	learning by asking for help/advice from experienced colleague	20%	44%	36%	55	55%
7	learning by asking for help/advice from supplier	9%	47%	44%	55	-
8	learning by asking for help/advice from experts in another garage or specialised firm	4%	37%	59%	54	-
9	learning by asking for help/advice from technical division of importer/supplier	5%	55%	40%	55	-
10	learning by solving problems by yourself	59%	32%	9%	56	65%
11	learning by practising with new equipment/tools	30%	46%	23%	56	50%
12	learning by visiting colleague repair-shops	2%	17%	81%	54	-
13	learning by excursions/visits to fairs	4%	27%	69%	55	-
14	learning by regularly rotation of tasks by which you can keep your skills up to date	43%	21%	36%	56	64%
15	learning from suppliers' instructions	25%	29%	45%	55	50%
16	learning by doing non-routine repairs (such as gearbox, clutch, etc.)	21%	45%	34%	56	82%
17	learning problem-solving together with colleagues	43%	39%	19%	54	58%
18	learning through explanation of experts/ experienced people	19%	48%	33%	54	78%
19	learning by direct employee participation	33%	35%	33%	55	67%
20	learning from experiences of customers/ users of cars	11%	41%	48%	54	-
21	learning from complaints of customers	23%	39%	38%	56	58%
22	learning by involvement in management, planning, etc.	19%	31%	50%	54	67%
23	learning by self-study from textbooks of apprentices, etc.	30%	29%	41%	56	60%
24	learning by repairing cars in your own time	13%	36%	51%	53	-
25	learning by installing technical modifications on existing cars	13%	43%	44%	54	-

* Effectiveness score: % of mechanics who mention that they learn a lot from this method of incidental learning. The effectiveness score has only been calculated for the mechanics who mention that the particular method of incidental learning occurs *often* in their situation. Example: 22 (39%) out of 56 mechanics state that they often learn new things under the responsibility of the boss or an experienced mechanic. Out of these 22 mechanics, 63% (14 mechanics) mentioned that they learn a great deal in this way. Where less than 10 mechanics mention that a particular method of incidental learning occurs often, the effectiveness score has not been calculated.

Another important outcome is that according to half of more of the mechanics the following methods of incidental learning are not very effective:

- learning by using handbooks, manuals, etc.;
- learning by practising with new equipment/tools;
- learning from suppliers instructions.

Relationship with initial vocational education

In the last paragraph we described the relationship between initial vocational education and the participation in courses. Mechanics with initial vocational education for the car sector participate more often in continuing vocation training than mechanics without initial vocational education.

Figure 3.8 shows that there also is a clear relationship between initial vocational education and incidental learning in the work situation.

The top 5 incidental learning methods for mechanics without initial vocational education for the car repair sector is as follows:

- learning new things under the responsibility of the boss;
- learning new things through helping an experienced mechanic;
- learning by asking for help/advice from an experienced colleague;
- learning by doing non-routine repairs;
- learning by self-study from textbooks of apprentices, etc.

Figure 3.8 - Incidental learning methods, broken down according to the level of vocational education of the mechanics (%'occurs often')

		Vocational education for car sector			
Method/form of learning:		none	apprentice primary level	apprentice secondary level	total
1	learning new things under the responsibility of the boss or an experienced mechanic	60	39	10	39
2	learning new things through the help of experienced mechanic	60	41	0	39
3	learning by doing work with a growing degree of difficulty	27	39	40	36
4	learning by using handbooks, manuals, etc.	27	31	40	32
5	learning by asking for help/advice from senior mechanic	53	27	0	29
6	learning by asking for help/advice from experienced colleague	21	26	0	20
7	learning by asking for help/advice from supplier	0	16	0	9
8	learning by asking for help/advice from experts in another garage or specialised firm	7	3	0	4
9	learning by asking for help/advice from technical division of importer/supplier	0	10	0	5
10	learning by solving problems by yourself	43	56	90	59
11	learning by practising with new equipment/tools	36	31	20	30
12	learning by visiting colleague repair shops	0	3	0	2
13	learning by excursions/visits to trade fairs	0	6	0	4
14	learning by regular rotation of tasks by which you can keep your skills up to date	29	44	60	43
15	learning from suppliers' instructions	7	39	10	25
16	learning by doing non-routine repairs (such as gearbox, clutch, etc.)	43	13	20	21
17	learning problem-solving together with colleagues	38	45	40	43
18	learning through explanation by experts/experienced people	21	20	10	19
19	learning by direct employee participation	23	31	50	33
20	learning from experiences of customers/users of cars	7	10	20	11
21	learning from complaints of customers	14	22	40	23
22	learning by involvement in management, planning, etc.	0	23	30	19
23	learning by self-study from textbooks of apprentices, etc.	43	22	40	30
24	learning by repairing cars in your own time	8	13	20	13
25	learning by installing technical modifications on existing cars	23	6	20	13

The top 5 for well-educated car mechanics is quite different:

- learning by solving problems by oneself;
- learning by regular rotation of tasks by which one can keep one's skills up to date;
- learning by direct employee participation;
- learning from complaints of customers;
- learning by doing work with a growing degree of difficulty.

Learning by self-tuition and by coaching

It is very evident that we have here two very different concepts of incidental learning. Qualified mechanics, i.e. mechanics with initial vocational education for this trade, are to a great extent capable of updating and developing (further) their skills and competencies by their own initiative, whereas less qualified mechanics - with no initial vocational education - are dependent on the supporting role of others.

3.5 Learning capacities of mechanics and learning opportunities of work situation

As a general conclusion we can state that the opportunities and the possibilities car mechanics have for updating and for (further) developing their skills and competencies through courses and methods of incidental learning are closely related to their initial education.

This relationship already starts when car mechanics enter the labour market. As Figure 3.6 shows, qualified car mechanics, i.e. mechanics with initial vocational education for this trade, are hired by franchised workshops, whereas mechanics without initial vocational training end up in non-franchised workshops. In general, the opportunities for participating in continuing vocational training are better in franchised workshops, because employees of this kind of workshop have easy *access to the CVT provisions* of their manufacturer or importer. Figure 3.6 indeed shows that the mechanics in franchised workshops almost all participate in vocational courses, whereas this is more the exception than the rule in the non-franchised workshops.

Another factor that plays a role here is the fact that non-franchised workshops are mostly characterized by one form or another of *negative specialization*, because they cannot (any longer) afford the huge investments necessary to maintain the full service concept and/or because they lack the skills and competencies - and ways of overcoming these deficits - to service particular elements or parts of (modern high-tech) cars. It is not easy to determine in general what is cause and effect in this relationship.

Nevertheless there is plenty of evidence in this study that qualified car mechanics have a much better basis for further training and learning processes and activities than their colleagues who start working without an initial vocational qualification. And it is also quite evident that the chances and opportunities for the (further) development of skills and competencies, in general - there are exceptions to this rule as we shall see - are better in franchised workshops than in non-franchised ones.

3.5.1 Strategy of manufacturers and importers

The technological progress in the sector, resulting in ever more high-tech cars, in conjunction with the strategy of the manufacturers and importers to keep the high-tech cars in their own network of franchised car dealers, can put the independent non-franchised car repair firms in a difficult position. The strategy of the manufacturers and importers to exclude the independent non-franchised car repair firms is based on the following factors:

- they do not sell the high-tech make-specific diagnostic equipment to firms other than their own franchised dealers;
- people must be trained before they can handle the new make-specific diagnostic equipment, but only mechanics and technicians of their own make-specific authorized workshops obtain access to these courses, given or supervised by the manufacturer or importer;
- the warranty stipulations only remain valid as long as the car is serviced by the make-specific authorized workshops.

There are no major differences in the basic functions of diagnostic equipment. The use of such equipment, however, varies substantially. This requires a great amount of knowledge on the part of the technician, but this knowledge applies only to a certain brand name. Rauner et al. (1993) state that this make-specific operational knowledge only results in "fake qualifications". According to these authors a reduction in make-specific operational knowledge which results in 'fake qualifications' is desirable. Instead of this they plead for the establishment of a skills profile which can be transferred to a variety of work processes: these are, primarily, methodological knowledge (for example, how diagnoses are carried out), functional knowledge (for example, the operation of systems such as monojetronic) and instrumental capabilities and skills (for example, use of computer systems).

In this study of micro enterprises in the car repair sector we clearly see the consequences of the strategy of manufacturers and importers: many non-franchised firms tend to limit themselves to mechanical and electrical repairs only and/or to more or less specialize in one make as well.

3.5.2 Strategies of non-franchised micro car repair workshops

Negative specialization: few prospects for skills development

In cases where non-franchised car repair limit themselves entirely to mechanical and electrical repairs, we speak of negative specialization. We use the adjective 'negative' because in these cases entrepreneurs are forced into this specialization by factors beyond their control: they do not handle electronic systems repairs because they lack the specific equipment and knowledge. Clear examples of such a negative specialization are firms 16, 19 and 20. The following quotations show that these entrepreneurs blame the car manufacturers for the problems they cause.

I still cannot accept the idea that there is such a vast variety of different diagnostic units for each and every model. This absolute specialization of diagnostic equipment and tools, which is deliberately imposed by the manufacturers, causes a big problem. But I do believe that in the future this will change and there will be common standards for various models... It would be of vital importance to have a unique diagnostic unit, which will properly check more or less all the different models of cars, but such a thing does not exist yet. It is totally meaningless for me to buy modules for two or three different car makes and the corresponding variety of models. There are independent providers for almost all car types, but I think that no one can afford it. The most important thing would be to have a diagnostic unit able to check all the catalyst models. Today, I can only check the engine of such cars and not their ECU unit. If a special check of the ECU unit is needed, I am - unfortunately - obliged to cooperate with a franchised workshop (case 19).

It is something of a problem, because we definitely cannot afford to spend one or two million a year on new equipment. If you need to buy equipment for BMW, for instance, and you do not know if you are going to have customers with a BMW, how are you going to spend 600 000 pesetas on new equipment...? And the same goes for Volkswagen, Mercedes or any other make... (case 20).

These three non-franchised car repair workshops are competing mainly on price. In this way they try to create a competitive advantage in comparison with the make dealerships and the authorized workshops. The disadvantage of this strategy, however, is that they lack financial resources to invest in the modernization of the workshop equipment and in training of the staff. Of course, there is hardly any need for continuing vocation training in the current strategy focused on traditional mechanical repairs.

At the same time these three entrepreneurs realize that they are threatened by competition from another corner. In the long term they see the problem of the massive emergence of petrol stations in supermarket areas where they will change the oil, replace tyres, etc. These new repair shops - like Quick Fit - are organized in big chains so that they can service the customers on favourable terms.

These hypermarkets, if they can, bring down prices. Obviously, they already buy stocks of exhausts and brakes. Then they cut prices and charge knock-down prices. Certainly, we have been very lucky, no hypermarkets have been set up in the area so far. But when they come, more than one of us is going to drop out of the market (case 20).

None of the three entrepreneurs sees solutions to these problems, and this makes them rather sceptical about the future of their workshops.

Make-orientation to obtain (training) support

Of the 10 non-franchised car repair workshops in our sample, one (case 16) was and four (case 12, 15, 17 and 18) are more or less specialized in one specific car make. Case 18 is the Irish car repair workshop, specializing in Mitsubishi space wagons. This firm has no outside staff, and for that reason we shall not give this firm more attention here.

The entrepreneur in case 12 used to run an authorized Alfa Romeo workshop. Very soon after he started up (1973) as an entrepreneur his firm was converted (in 1975) into an authorized Alfa Romeo workshop. He held this status until 1993, when factors beyond his control turned the workshop into an independent repair workshop. However, this workshop still has all features of an authorized Alfa Romeo workshop. They still exclusively service Alfa Romeo cars, and what is important for this study, the owner succeeds very well in obtaining anything - new Alfa Romeo cars, new equipment and even Alfa Romeo *training* for himself and his staff - that is necessary to keep his firm up to date by using his personal contacts. In fact this car firm has far more in common with the authorized workshops than with the non-franchised workshops. The only reason to class this firm as non-franchised is that it has no formal agreement with the Greek Alfa Romeo distributor. There is certainly difficulty in obtaining equipment from the importer-distributor, but the entrepreneur has overcome this difficulty by using his personal contacts, in Greece and abroad, to obtain anything he thinks is necessary. As a result, the workshop is equipped with the state of the art in hardware and diagnostic units for Alfa Romeo cars, which is always kept updated.

We have no real problem in obtaining the equipment necessary. It might sometimes cost something more in time and/or money, but we have all the modern equipment necessary for Alfa Romeo cars. I do not think that we would have anything more if we were a franchised workshop.

The entrepreneur in case 15 has a Citroën subdealership. This firm does not have direct commercial relations with the Citroën importer but has a contract with the local Citroën dealer. The firm's technological level is good despite the fact that the entrepreneur does not have sufficient financial resources to invest continuously in the most sophisticated equipment and tools. The firm has diagnostic equipment for electronic systems, and the workshop is computerized and makes regular investments in the renewal of equipment, tools and instruments. The firm has access to the training provided by Citroën, and all the mechanics do participate in the courses. To avoid too much specialization in the long run, the owner of this firm has a strategy that every mechanic participates in all relevant courses. Here, the all-round model of work organization and the availability of training provision clearly influence the training policy and training practice.

The firm accepts all types of repairs. If the failures cannot be identified with its own diagnostic systems, the car is taken to a diagnostic centre. Only if the problem cannot be solved there do they refer to a dealership repair shop as a last resort.

If we have a problem we go to the diagnostic centre. And then it is a matter of sorting out the problem and having a diagnosis made ... If we can't manage to get it there, then we take the car to the dealership.

However, they do not ask for help from the dealership very often. They usually manage to solve the problem on their own or with the assistance of the diagnostic centre.

No, no (it doesn't happen very often) because with our capacity and the testers we have, we usually manage to sort it out with or without the help of the diagnostic centre.

The Greek entrepreneur in case 17 specializes totally in one make: Opel. A large part of the workshop's business is based on the repair of diesel-engined cars, as the owner is a specialist in diesel engines.

I have created a good reputation in the whole area and among my customers, that I exclusively repair OPEL cars. If I start repairing vehicles of others makes as well, I jeopardize my reputation. On the other hand, under the present competitive circumstances, it is too difficult for me - and for anyone else, I believe - to follow the progress for more than one manufacturer's vehicles.

This entrepreneur tries repeatedly to gain an Opel dealership. To date he has not managed to do so. This implies, for instance, that his employees have no access to the training provided by the Greek Opel importer. This is why only the owner participates in courses. All the information then passes through him to the employees according to the *cascade model*. The main reason for this approach is that in Greece the Federation of Owners of Independent Workshops only provides training for its members, i.e. the owners and not for their employees. Without such provisions, continuing vocational training of the employees becomes too expensive for the non-franchised Greek workshops, which are already facing a prolonged crisis.

As has been said, the bulk of training in this firm happens through incidental learning. This is the main source of training for the owner and the only source of training for the employees. After the courses on catalyst technology that the owner attended, he taught the technicians himself, mainly through the exhaust gas analyser. He kept explaining to them the meaning of the different displays and error messages. The cascade model is applied in a variety of forms in this workshop, as the owner illustrates.

Our equipment has greatly assisted me in transferring information to the technicians. They are now in the position of dealing with most of these problems on their own...

When I do a job for the first time in the workshop, I have one of the mechanics doing it with me. Next time, I ask him to do it and I simply check him. Then, I do the same with someone else, and so on. This is something that is done on a daily basis...

When there is a chance, and not much work to do, and there is a car for repair that could be used for the purpose, I ask them all to come together, to show them a certain procedure. When we have a new model of a car, I gather all the information I have at hand for this model and I gather all the technicians to show them as much as I can, especially the differences between the new model and the previous one.

Customer-orientation instead of make-orientation

Ireland and The Netherlands were also involved in our study on the relationship between work organization and qualification in micro-enterprises in the car repair sector. In Ireland almost all the car repair workshops studied are of the authorized type, but in The Netherlands we also studied two non-franchised car repair workshops. In these firms no such thing as a negative specialization or a make-specialization process takes place. Important explanations here are that there is a strong tradition in the car industry in The Netherlands with regard to initial vocational education and continuing vocational training.

The sector has its own innovation and training centre (INNOVAM). This centre not only organizes dual specialist training, but also training for entrepreneurs and management training. In addition, it provides in-service training and refresher courses for mechanics, including basic courses in applied motor vehicle electronics. In particular, mechanics and technicians from independent non-franchised car repair workshops make use of this provision. Another important point is that in most cases franchised and non-franchised car repair firms have a cooperative attitude towards each other in The Netherlands, as they are very aware of their shared interests. When a non-franchised car firm sells a brand-new car, every franchised dealer of that make likes to deliver the car. In turn he is more than ready to support the non-franchised workshop with help and advice, when needed.

The two Dutch car firms (cases 13 and 14) have a key characteristic in common: they do not have a car-orientation or a make-orientation but a very pronounced customer-orientation. They both have a large group of regular customers, and the customer's wishes are the basis and guiding principle for these firms. For this reason they explicitly want to be independent - one of the two has been offered a dealership, but he turned it down - because they want to deliver to their customers what the customers want, including new cars from different makes. As a dealer of one make they would feel too restricted. They have both built up good relations with local dealers of different makes concerning the delivery of new cars.

The two firms differ greatly in the content and elaboration of their service concept, and this depends heavily on the qualifications of the entrepreneurs/owners of these firms themselves. The entrepreneur of the 'total mobility service' firm is an educated sales person. He sells all services that have to do with mobility, while the entrepreneur of the 'total workshop service' first of all is a highly qualified mechanic (craftsman). In fact they do what they are good at and structure the services and the organization of their firms along these lines.

The two firms also have in common that they participate in a network of similar workshops. Although the character of this network differs, they are both trying in this way to strengthen their firms and to overcome some of the weaker points that small firms mostly have. The entrepreneur of the 'total mobility service' firm participates in a sectoral activity called 'mirror firms'. Groups of about 10 independent workshops visit each other and discuss and evaluate each other's firms in all their different aspects.

I learn a great deal from these mirror visits. This type of communication and evaluation is very good for independent firms. Dealer firms see each other regularly on different occasions but independent firms are more individual and it is very rewarding to look outside your own circle.

The 'total workshop service' firm has joined the 'vakgarage', a regional organization of colleague independent workshops who organize various things together (purchasing spare parts, joint agreements with insurance companies, joint PR, joint help service at weekends, joint purchasing of new equipment and also of courses etc.). In this way efforts are made to strengthen the small individual independent workshop by organizing some aspects on a common and larger scale.

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All these things we organize together in the 'vakgarage' are a great help of course, but in the end you have to do it yourself as an entrepreneur. It is a good help but ultimately it depends on the qualities of the entrepreneur.

As has been said, both firms are customer-oriented. To keep in touch with its 1800 customers and to keep informed about their opinions and wishes the 'total mobility service' firm does its own customer research:

My customers get a lot of leaflets and brochures from other workshops and dealers and maybe my customer asks himself if my firm still exists. Cars need less maintenance these days, and this implies that there are only a few contacts between the workshop and its customers. So you have to keep in touch. That's why I offer more services than just selling new cars, and that's the reason for my own customer research.

The 'total workshop service' firm has about 900 customers, and the entrepreneur himself knows all of them personally. He keeps his customers through a personal approach, good and reliable work and through a very flexible service (including in the evening and at the weekend if someone is in trouble). What he does is in fact create a bond between the customer and his firm (instead of a bond between a make and a customer as in case of a dealer firm). The entrepreneur is of the opinion that an independent workshop is better than a dealer workshop.

Both firms have hired qualified mechanics. These persons are capable, with some support from their employers, of updating and developing their skills by participating in courses and by methods of incidental learning. Nevertheless, in the 'total mobility workshop' insufficient attention has been given to the micro-electronic developments in the sector. The entrepreneur is aware of this and is working out a strategy to catch up with developments.

3.5.3 Strategies of franchised micro car repair firms

Regarding the franchised car firms, three types can be distinguished:

- component dealerships (Bosch and/or Lucas dealership);
- make dealerships (sales and maintenance/repair);
- authorized workshops (maintenance/repair).

Manufacturers offer important support in training matters

In our sample of 11 franchised micro car firms, most owners clearly state that they have opted for a dealership because they believe that this type of car firm has better future prospects than the non-franchised car firm. In fact all owners of make dealerships state that they have opted for this kind of cooperation with a car manufacturer or car importer because they believe that such cooperation generates more growth prospects for their firm (cases 4 and 5) and/or generates the support necessary for further growth (cases 6, 7 and 8).

For most make dealerships, in particular the newly started ones (cases 4 and 5), the focus is on car sales. The workshop is seen as an important after-sales service. The owner of the Dutch Seat dealership is totally convinced of this.

'Sales people sell the first car to a new customer, but whether you sell that customer a second or a third car in time depends completely on your workshop service. After-sales is customer retention. The chief job of the workshop is customer retention.'

To make such a service possible these car firms hire highly qualified - sometimes (see case 5) overqualified - mechanics, and because they have easy access to the training provisions of the car manufacturer it is not too difficult for these firms to keep the skills and competencies of the mechanics up to date.

At the same time the owners of these make dealerships have to invest large amounts of money in the equipment of the workshop and in the training of their mechanics. They have opted for this kind of firm because they expect it to offer good prospects for growth, but this choice at the same time implies that they are 'condemned' to grow in order to make their investments profitable. They have to make sure that they gain enough customers for the workshop. The entrepreneurs are very aware of this, as the owner of the Seat dealership illustrates.

Of course, it is true that profit is the most important thing for an entrepreneur. But to realize a profit of let us say 5 000 guilders I prefer to sell ten cars than to sell two. Of course your average profit is higher when you earn 5 000 guilders by selling just 2 cars, but don't forget what it brings your workshop in the long term if you sell ten cars rather than two.

In fact such a long-term strategy is characteristic of both recently started small dealerships (case 4 and case 5). At present neither firm yet has sufficient customers yet to carry out all maintenance and repair jobs in their own workshops. Nevertheless, the full service concept for customers is essential in the competitive strategy of both firms. And this is the reason why they have hired very qualified mechanics for the workshop. These mechanics have to be qualified to do the diagnosis, to handle repair work and - in case specialized repair work is outsourced - to control and evaluate this before the car is handed over to the customer.

'It's all geared towards efficiency. We could do the job ourselves ... but it might take us eight hours and a specialist two. So there's no gain for anybody. We wouldn't be justified in charging it out (to the customer) for eight hours.'

In fact, entrepreneurs in franchised car firms do not always have the freedom to charge customers their own prices. Manufacturers have fixed scales for repair jobs under warranty. In the two small dealerships (cases 4 and 5) this is not (yet) a problem, since a lot of repair jobs are outsourced anyway.

Manufacturers exert influence on the organization of work as well

Manufacturers and importers clearly influence the organization of work in the dealerships and the authorized workshops through their official (price) standards.

People select cars because of the extras and the price-quality relationship of the after-sales service. This means that the car manufacturers become increasingly interested not only in the quality but also in the costs of the after-sales services. Not only are the profits on car sales diminishing, but the after-sales services are increasingly fixed in maintenance schemes, which fix periods as well as prices. The consequence of this is that motor mechanics not only have to have the knowledge to do a job properly but must also be able to do the job quickly. This implies that some *specialization* is necessary to comply with the tight maintenance schemes. Another consequence is that the labour costs of skilled motor mechanics are becoming more and more of a problem in case of the more routine activities.

This need for more efficiency has been emphasized in several car firms studied. In some workshops - see for instance cases 8 and 10 - the consequences have been accepted, at least by the entrepreneurs.

'There's no point in everybody being all-rounders because nobody is fast at doing all jobs... The lads (the brothers in the workshop) tend to specialize in different areas. It is not that the others can't do them, it's just that they wouldn't be as quick. So basically you have to go after the things you usually do ... to make money. The number one rule is to save time and money.' (case 10)

In other workshops the entrepreneurs gave clear signs that they do not agree with the official standards of their manufacturers and the way they exert influence.

'These standards are based on the time that extremely specialized personnel need to perform their speciality and this means that these standards may not be applied to technicians who are not totally specialized but who can work on all of the sub-systems of a car.' (case 9)

'We are facing an era of transition towards large, integrated franchised workshops. Within the next decade, only such enterprises will survive. They are going to have both a repair workshop and will also sell spare parts and even cars. Independent workshops will vanish. It is a mistake and I greatly regret it, because they are serving as a counterweight, but it will happen." (case 11)

'They have their scales. I have my scales. They have scales based on new products - there are no rusted screws, there are no difficulties in stripping it. But when a vehicle has been on the road for 7 or 8 months, the problems encountered in repairs are greater and they take more time. They do not understand this. Another thing is equipment, the tools required for each specific case. The repair shop may or may not have them. They assume you do.' (case 1)

In fact, the entrepreneurs who have had a dealership contract for many years in particular make critical remarks about their manufacturers.

Manufacturers also limit the learning opportunities of mechanics

An important advantage for mechanics in franchised car firms is that they have access to the training provisions of the manufacturer or importer. However there are disadvantages too.

In the first place, as has already been mentioned, the participation in the courses offered by the manufacturer or importer can result in *'fake qualifications'* because there is a risk that they will only acquire make-specific operational knowledge.

Besides, it is evident that the car manufacturers by imposing tied maintenance schemes, which fix periods as well as prices, promote the specialization of mechanics. This specialization in maintenance and repair activities will have consequences for the participation in continuing vocational training. Most entrepreneurs admit that there is a close link between the maintenance and repair activities mechanics are doing in the workshop and the courses they are enlisted for (see also Figure 3.9).

Figure 3.9 - Initial and continuing vocational training of workshop staff

		country	**type**	**initial vocational education car sector**	**participation in CVT in recent years**	**criteria for selection for CVT***
I FRANCHISED						
A. *Components (specialists) dealerships*	1	Sp.	Lucas + Bosch dealer (3)	nobody	yes, all mechanics	1
	2	Neth.	Bosch dealer (5)	yes, all	yes, all	3
	3	Ire.	former Lucas dealer (4)	yes, all	no, not anymore	-
B. *Make dealerships*	4	Neth.	SEAT dealer (2)	yes, all	yes, foreman	3
	5	Ire.	SKODA dealer (2)	yes, all	not yet	-
	6	Ire.	PEUGEOT dealer (4)	yes, all	yes, all	3
	7	Ire.	NISSAN dealer (7)	yes, almost all	yes, all	3
	8	Neth.	DAEWOOd ealer (6)	yes, all	yes, most mechanics	1.2
C. *Authorized workshops*	9	Gr.	KIA-workshop (3)	yes, almost all	yes, all	1.3
	10	Ire.	PEUGEOT workshop (6)	yes, almost all	yes, all	1.3
	11	Gr.	ROVER workshop (11)	yes, all	yes, but not all	2.3
II NON FRANCHISED						
D. *Workshops with a strategic concept*	12	Gr.	non-authorized ALFA ROMEO workshop (7)	yes, almost all	yes, most mechanics	2.3
	13	Neth.	mobility concept firm (5)	yes, all	yes, all	1
	14	Neth.	full-service concept workshop (4)	yes, all	yes, all	1
E. *Workshops with some specialization*	15	Sp.	workshop with CITROEN (4) specialization	only foreman	yes, all	1.3
	16	Sp.	workshop, spec. in Iveco lorries (5)	nobody	hardly**	-
	17	Gr.	workshop, spec. in Opel diesel (4)	nobody	only entrepreneur	-
	18	Ire.	workshop, spec. in Mitsubishi space-wagons (2)	yes, all	yes, all	1
F. *Workshops without specialization*	19	Gr.	workshop (1)	nobody	very limited	-
	20	Sp.	workshop (2)	nobody	hardly**	-
	21	Sp.	body workshop (2)	nobody	very limited	-

* 1 = policy that at least one mechanic participates in courses relevant to the workshop
2 = policy to enlist mechanics for courses who are good at transferring knowledge
3 = participation in training is closely related to division of work

Specialization in specific maintenance or repair activities not only has consequences for participation in courses for mechanics but also for their opportunities for incidental learning. The model of work organization according to principles of specialization clearly limits the possibilities of learning by doing. Cases 8 and 10 offer good examples of this.

CEDEFOP – European Centre for the Development of Vocational Training

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Synthesis report

Harry van den Tillaart, Sjaak van den Berg, John Warmerdam

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Work and learning in micro car-repair enterprises

A comparative study on the relationship between technological and organisational developments and training activities in micro car-repair enterprises in four European countries

Synthesis report

How does learning take place in micro enterprises?

What is the influence of the sector a micro enterprise belongs to, in this process?

What types of work organisation favour or impede the acquisition of skills and competences of the employees?

What is the role of the entrepreneur/manager?

How can he/she be better prepared to face the challenges of a constantly changing environment?

Those are the main questions this report tries to answer taking the case of the car repair sector in four EU Member States.

Harry van den Tillaart, Sjaak van den Berg, John Warmerdam

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